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The politics of women's health: Decentralization, state capacity, and maternal mortality disparities

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**The politics of women's health: Decentralization,
state capacity, and maternal mortality disparities**

by

Iim Halimatusa'diyah

A dissertation submitted to the graduate faculty
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

Major: Sociology

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The student author, whose presentation of the scholarship herein was approved by the program of study committee, is solely responsible for the content of this dissertation. The Graduate College will ensure this dissertation is globally accessible and will not permit alterations after a degree is conferred.

Iowa State University

Ames, Iowa

2019

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DEDICATION

To my husband,
Sirojuddin Arif,
and daughter,
Keisa Anindya Jagadditha

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NOMENCLATURE

ASKESKIN	<i>Asuransi Kesehatan Keluarga Miskin/Health Insurance for Poor Families</i>
BEmONC	<i>Basic Emergency Obstetric and Newborn Care</i>
BERLIAN	<i>Bersama Lindungi Ibu dan Anak/ Together We Protect Mothers and Children)</i>
BOK	<i>Bantuan Operasional Kesehatan/ Health Operational Fund</i>
BHS	Barangay Health Stations
BPJS	<i>Badan Penyelenggara Jaminan Sosial/Social Security Administrative Body</i>
CBHP	Community-based Health programs
CFI	Comparative Fit Index
EFI	Ethnic Fractionalization Index
GDP	Gross Domestic Product
GP	General Practitioner
GRDP	Gross Regional Domestic Product
GSI	<i>Gerakan Sayang Ibu/ the Movement to Cherish Mothers</i>
JAMKESDA	<i>Jaminan Kesehatan Daerah/Regional Health Insurance</i>
JAMKESMAS	<i>Jaminan Kesehatan Masyarakat/Public Health Insurance</i>
JAMPERSAL	<i>Jaminan Persalinan/Delivery Insurance</i>
JKN	<i>Jaminan Kesehatan Nasional/National Health Insurance</i>
<i>JPK Gakin</i>	Health Service Insurance for Poor Families
KIBBLA	<i>Kesehatan Ibu, Bayi Baru Lahir, Bayi dan Anak Balita/Maternal, Newborn Babies and Child under Five Health</i>
LEG	Local Economic Governance
MDSR	Maternal Death Surveillance and Response

MOHRI	Ministry of Health Republic of Indonesia
MpM	Medicare para sa Masa
NHIP	National Health Insurance Program
PA	Path Analysis
PAD	<i>Penghasilan Asli Daerah/Local Revenue</i>
PERDA	<i>Peraturan Daerah/Regional Regulation</i>
PHC	Public Health Center/ <i>Puskesmas</i>
PHIC	Philippines Health Insurance Corporation/PhilHealth
PONED	<i>Pelayanan Obstetri Neonatal Emergensi Dasar</i>
POSYANDU	<i>Pos Pelayanan Terpadu/ Integrated Service Post</i>
RFI	Religious Fractionalization Index
RHU	Rural Health Units
RMSEA	Root Means Square of Approximation
RMNCH	Reproductive, Maternal, Newborn, and Child Health
SPHEAR	Sponsor Payer, Health Care Provide, Employer, Advocate, Regulator
TBA	Traditional Birth Attendant
UHC	Universal Health Coverage
WHO	World Health Organization

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ABSTRACT

Maternal mortality reduction has been on the global development agenda for the last several years. Nevertheless, the evidence has suggested that while the number of maternal mortality has declined significantly, disparities between and within countries persist. What explains these disparities? Many studies on maternal mortality have stressed socio-economic development as the primary cause of these disparities while overlooking the influence of political and institutional factors such as state capacity and decentralization. The latter has been long-advocated by many international development agencies as a development strategy to improve the quality of state capacity, and public goods and service delivery. However, the extent to which the interconnection between decentralization and state capacity affects the disparities in maternal mortality is not well understood. To fill in this gap, this dissertation research examined the impact of decentralization and state capacity on maternal mortality. It is this researcher's belief that a strong decentralized state, characterized with high levels of central and local state capacities is necessary for achieving the promise of decentralization to bring about and improve public health outcomes. This dissertation research focused on: (1) the importance of political, institutional, and historical dynamics for understanding maternal mortality disparities; (2) the "causes of the cause" or "fundamental causes" of maternal mortality disparities in sub-national levels including the variations of state capacity within a country; and (3) local government proliferation on maternal mortality disparities including social embeddedness of street-level of bureaucrats on the effectiveness of maternal health service delivery.

CHAPTER 1. INTRODUCTION

Research Background

The purpose of this study was to examine the determinants of disparities in maternal mortality ratio (MMR). Maternal mortality has been commonly acknowledged as a pivotal indicator of health and socioeconomic development as it is considered as having impact on women's empowerment and family wellbeing, as well as socioeconomic development at the national level. In a national context, maternal mortality not only reflects the whole national health system but also numerous aspects of a country's structure including intergovernmental cooperation and coordination, accountability, and disparities (Sajedinejad, Majdzadeh, Vedadhir, Tabatabaei, & Mohammad, 2015). In terms of women's empowerment, maternal mortality is also seen as an indicator of women's status in the society, and countries in which women have high status are likely to have better social and economic development (Shen & Williamson, 1999). At the family level, maternal mortality has contributed to social and economic losses as women have various social and economic roles such as provider of reproductive and care work, being producers and income earners. Some studies have indicated that the loss of a mother in the family has affected children's development, family fragmentation, and family economic insecurity (Kes et al., 2015; Molla, Mitiku, Worku, & Yamin, 2015).

The maternal mortality ratio has significantly declined globally since the adoption of Millennium Development Goals (MDGs) in 2000, and global reduction of MMR to less than 70 per 100,000 live births which has been one of the main concerns in recent Sustainable Development Goals (SDGs). According to the World Health Organization's estimates, MMR declined by approximately 45% over the period 1990–2015. The same estimates suggest that

global MMR dropped from 385 maternal deaths per 100,000 live births in 1990 to only 216 maternal deaths per 100,000 live births in 2015 (WHO, 2015). Nevertheless, despite the decline of global MMR, disparities between and within countries persist, especially in the developing world. Some evidence has indicated that MMR in developing countries is 14 times higher than that in developed nations (WHO, 2014). This raises an important question about socioeconomic and political determinants of maternal mortality reduction. Why do some countries or districts succeed in reducing maternal mortality while others do not?

Many researchers have addressed the question of maternal mortality reduction from various perspectives. Using a variety of sociological theories such as modernization, dependency and world polity theories, some studies have focused on the countries' socio-economic development, economic dependency, democracy level, health and social expenses, gender inequality, and the role of civil society like International Non-Government Organizations (INGOs) and Non-Government Organizations (NGOs). These researchers have assessed different aspects of maternal mortality reduction. Nevertheless, little is known about the effect of political factors such decentralization and state capacity on maternal mortality disparities.

First, existing studies on maternal mortality have neglected the role of the state. Partly due to the dominance of Marxist and pluralist approaches, the state is often viewed as predatory rather than as development agents (Kelly, 2008). Additionally, free-market or neo-classical economic theorists often consider the state as a "black box" whose internal functions were not worthy for economies (Evans, 1995, p. 23). Neo-utilitarian political economists even go further and suggest researchers to leave the black box closed in order to avoid negative economic consequences of state actions (Evans, 1995). One common

assumption about the state – that the state is an obstacle rather than aid to growth – has provided more space for the expansion of economic liberalization as a solution for a variety of problems in developing countries, including provision of public goods. Nonetheless, the failure of economic liberalization to deliver its promises in improving socioeconomic conditions of developing countries as well as the absence of competent state institutions have caused many serious problems in the developing world.

Against Marxian and neo-classical understanding of the state, some state theorists have argued that an organized, effective, and efficient state can be a vehicle for countries to escape from dependency cycles. The intervention of political institutions of strong developmental state in the economy can help developing countries to get out from their Third-World status (Kelly, 2008). Thus, state institutions become a critical variable in the development. In the context of health, for instance, the role of the state is very essential as the quality of public health provision across countries depends on state capacity (vom Hau, Sen, & Yanguas, 2013).

Second, existing works on the determinants of MMR have also overlooked the effect of decentralization. While state capacity is important for development agendas, it cannot be denied that there are variations of state capacity across countries. Developing countries, in particular, are often identified as having weak institutions and low quality of public goods provision (Faguet, Fox, & Pöschl, 2015). Decentralization has been long advocated as an institutional reform to improve state capacity and public service provision in developing countries. However, the extent to which the decentralization affects state capacity and public health outcomes particularly maternal mortality is still debatable. In theory, the proponents of decentralization suggest that decentralization will bring policymaking processes closer to the

people so that public policies can better address local needs and the overall outcome will be efficiency in local public service delivery (Lewis, 2017). However, in reality, the theoretical advantages of decentralization might not be easily attained. Some empirical studies on the effects of decentralization on the quality of government and public service outcomes have shown mixed results ranging from positive, negative, and in-between (Bardhan & Mookherjee, 2006; Faguet, 2014; Lewis, 2017; Lewis & Smoke, 2017; Smoke, 2015).

Additionally, scholars of state capacity have often neglected the fact that the levels of state capacity might vary across sub-national levels of governments. Some researchers have suggested that historical state formation affects the level of state capacity (Bockstette, Chanda, & Putterman, 2002; Chanda & Putterman, 2005). However, the literature on the historical development of state formation has often focused on the national level of state while neglecting the fact that state formation can differ between subnational levels of a state (Foa & Anemirovskaya, 2016). Furthermore, in addition to restructuring central government capacity, decentralization has restructured state capacity in different types of local governments: old and new local governments (Billing, 2018; Lewis, 2014).

The current research was conducted to fill in this gap by assessing the impact of decentralization and state capacity on MMR disparities. Since many countries, especially developing countries, have implemented decentralization policies including public health service delivery, examining the interconnection of decentralization and state capacity with maternal health outcome is important to avoid a “whole nation bias” (Snyder, 2001, p. 16) analysis.

Research Questions

This dissertation research addressed the interconnection between decentralization and state capacity, and how they affect disparities in maternal mortality. More specifically, this study addressed two main questions:

1. How do decentralization and state capacity affect maternal mortality?
2. Under what conditions do decentralization and state capacity help reduce maternal mortality?

Research Methods

Quantitative and qualitative methods were used to carry out this research. The second chapter, which examines the relationship of decentralization, state capacity, and maternal mortality reduction in Southeast Asian countries, employed both comparative historical analysis and statistical analysis. The former used macro-causal analysis with the purpose of making causal inferences (theory-building) about macro-level structures and processes (Skocpol & Somers, 1980). The cases were selected based on the method of difference by contrasting “positive” and “negative” cases in which cases had a different level of MMR reduction. In this study, a comparative historical analysis of Indonesia and the Philippines were chosen to examine the condition under which decentralization successfully reduced maternal mortality. As for the statistical analysis, this researcher used a random effect panel data analysis to further examine the causal mechanism established in the comparative analysis (theory-testing).

The third chapter, which discusses how the variations in local state capacity and disparity in maternal mortalities across regions in Indonesia, employed quantitative methodology by applying a path analysis (PA) model. It is a special case of structural

equation models (SEM) (Tabachnick & Fidell 2013) that allows modeling of multiple dependent variables, and estimating direct and indirect effects.

Chapter 4 discusses the disparity of maternal mortality in Indonesia by comparing four purposively selected districts. Similar to Chapter 2, a comparative approach of macro-causal analysis was employed to establish causal inferences about macro-level structures and processes (Skocpol & Somers, 1980). The cases presented in this chapter were also selected based on the method of difference by contrasting “positive” and “negative” cases in which the cases had different levels of MMR. Secondary and primary data were used. The former included government documents from national as well as local governments in the four districts. As for the primary materials, the researcher conducted fieldwork in Jakarta in August 2017, and in Maluku and North Maluku provinces in January–March 2018. A purposive/non-random technique was applied to select informants in the study to purposively inform their understanding of the research problem (Creswell & Poth, 2018). In addition to interviews, informal participatory observations were made through participation in a routine activity of *puskesmas*, maternal mortality audit meeting and training as well as a coordination meeting of the local health department.

Sociological Theory

Studies of institution including state were initially dominated by the structural-functionalist paradigm, which emphasizes the function of institution and its contribution to the continuation of society as structural functionalism believes in order, stability, and social equilibrium (Giddens, 2006). Rooted in the works of classical sociologists such as August Comte, Emile Durkheim, and Herbert Spencer, structural functionalism was the leading sociological paradigm in studies of institutions until the 1960s, especially in the United States. Talcott Parsons (1902-1979) and Robert K Merton (1910-2003), whose works drew

on Durkheim's research, expanded the coverage of the structural-functionalism tradition in explaining social systems and structures (Macionis, 2012).

Structural-functionalism has been applied in understanding political system (Almond & Coleman, 1960; Almond & Powell, 1966). Almond and Powell (1966), for instance, argued that the state as a part of a political system must perform certain equilibrium-seeking functions, namely system capabilities, conversion functions, and system maintenance and adaptive functions. System capabilities refer to outputs or how the political system affects other systems, which include extraction, regulation, distribution, symbolic outputs, and responsive capabilities. Conversion functions refer to demands and support to convert inputs into outputs (capabilities). Finally, system maintenance and adaptive functions include socialization and recruitment (Almond & Powell, 1966). The structural-functionalist theory of institutions is often considered as old institutionalism or a holistic approach to institutions (Schmidt, 2006).

The old institutionalism, however, has been criticized for providing only a descriptive perspective of the state's institutional functions, being uncritical of institutional changes and in favor of the status quo (Schmidt, 2006). These criticisms had brought behaviorism, focusing on individuals and their behaviors, into popularity in the 1960s and 1970s and replaced the holistic structural-functionalist theory of institutions (Peters, 1999). In the 1970s, new institutionalism was developed in response to the old institutionalism and behaviorism, arguing the importance of institutions to understand behavior (Hall, 1996). It initially focused on the attempt to bring the state/institutions back in to illuminate politics and society (Schmidt, 2006). The new institutionalism postulates were influenced by other theories such as structural-functionalism, Max Weber's concepts of imperative coordination,

rational choice, and resource dependence theories (Palmer, Biggart, & Dick, 2008). There are three types of new institutionalism. First, rational choice institutionalism depicts the institution/state as a rational actor pursuing incentives. Second, historical institutionalism focuses on the historical development of state and institution to explain unintended consequences of certain historical initial conditions that lead to path-dependence. Third, sociological institutionalism, rooted from organizational theory, views the state/institutions as socially established and culturally framed (Hall, 1996; Schmidt, 2006).

In line with this theoretical development, this dissertation research would also contribute to overcoming the weaknesses of the old structural functionalism by applying the new institutionalism as a theoretical framework to examine decentralization, state capacity, and their effects on maternal mortality. More specifically, this dissertation research, especially in its qualitative part, relied on the historical institutionalism. Therefore, this researcher has conceived decentralization rather differently from those suggested by the structural-functionalism and rational institutionalism. Proponents of structural-functionalism have suggested that the implementation of decentralization would lead to positive outcomes. Even though it might lead to negative outcomes, these are part of institutional functions which finally lead to social equilibrium. Meanwhile, rational institutional theorists view decentralization as driven by the interests of national and subnational political actors to maximize their benefits. In contrast, the historical institutionalism looks closely at the contexts and political as well as historical conditions that have led to decentralization. To examine the results of decentralization, it is important to pay closer attention to critical junctures, path dependence and unintended consequences of decentralization. Similarly, in the context of state capacity, it highlights the critical junctures, path dependencies, and

unintended consequences that shape and change the level of state capacity over time. In short, this framework would help to understand the variations of decentralization and state capacities outcomes on maternal mortality.

Similar to other new institutionalist works that accommodate structural-functionalism in their approach, post-functional theory was also applied in this study as the framework. Proponents of this theory argue that a state/government is established through a combination of identity, functional, and distributional pressures (Hooghe & Marks, 2008). Identity/community pressures focus on the demand of ethnic and religious groups (minorities). While functional pressures emphasize the functions and economic characteristics of the state, distributional pressures accentuate the structure of political opportunity and economic advantages (Hooghe & Marks, 2008; Schakel, 2009). Post-functionalists also argue that the state has two contrasting objectives, namely performing its functions to provide public goods or accommodating societal and identity demands (Hooghe et al., 2016; Hooghe & Marks, 2008). Moreover, the post-functionalist theorists further argue that when state policies are politicized, it is more likely that identity/community pressures would have more domination than functional pressures (Hooghe & Marks, 2008). The effect of identity/community pressures differs from the effect of functional efficiency which, in turn, leads to heterogeneity of policy preferences and policies outcomes (Hooghe et al., 2016).

In relation to decentralization, the post-functionalist theorists would see decentralization as the result of functional demand, ethnic minorities, and heterogeneous (identity/community) preferences and political/distributional pressures (Schakel, 2009).

Therefore, the success of decentralization to fulfill its function on efficiency of public good provisions depends on the identity preferences and political context.

Definition of Concepts

The following concepts have been defined for this study. Additional terms appear in Appendix A.

Maternal Mortality

Other than female life expectancy, maternal mortality is often used as one of the measures of women's health because the risk of maternal mortality is closely related to women's preexisting health conditions (Wickrama & Lorenz, 2002). Additionally, maternal mortality is also considered as one of the main indicators of a country's maternal health status. By definition, maternal mortality is often considered as a small part of maternal morbidity, commonly understood as women's health problems during pregnancy and postpartum period. However, while maternal morbidity is difficult to measure accurately, maternal mortality has more well-established estimates and calculations. Therefore, maternal mortality ratio has been well used as a measure of maternal health. In this study, maternal mortality is defined as the number of pregnancy-related deaths per 100,000 live births, which include death during pregnancy or within 42 days of termination of pregnancy (WHO, 2015).

State Capacity

State capacity is a multidimensional concept. It is often used interchangeably with the terms of "governance", "state strength", and "institutional quality" (Fukuyama, 2004).

However, due to its focus on state institutions, state capacity was used instead of other terms such as governance that includes institutions and actors beyond government (Tan, 2019).

Although it is quite difficult to capture all different aspects of state capacity in a single definition, many scholars often define state capacity as the ability of the state to penetrate

society and implement their decisions and official goals (Mann, 1984; Migdal, 1988; Skocpol, 1985; Soifer, 2008; Soifer & vom Hau, 2008). By incorporating public service delivery, others conceptualize state capacity as the ability of state institutions to make and enforce rules, to deliver services, and implement policies or programs regardless of the fact whether the state is democratic or not (Fukuyama, 2013; vom Hau et al., 2013).

Rooted in the Weberian concept of modern bureaucracy, the idea of state capacity has been developed and adopted in various disciplines. Understandably, there have been various measures of state capacity. Despite their differences, these measures can be categorized based on their approaches to define state capacity into two types. The first type includes those measures that emphasize outputs or outcomes of what the state does and/or how the state performs. This output-centered approach focuses on the aggregate level, namely distribution and geographic coverage of public goods and services such as literacy, primary and secondary education, health care, transportation or infrastructures (Singh & vom Hau, 2015). Nevertheless, this output/outcome approach has been criticized for being problematic and considered as not valid measures of state capacity for several reasons. First, outputs/outcomes are not merely the result of public action; they can be influenced by exogenous factors. Second, public sectors produce primary services which are particularly hard to measure. Third, outcome-output measures require other state capacity measures such as procedural and normative measures (Fukuyama, 2013).

Unlike the output-centered approach, the second approach focuses on inputs. It looks at specific institutional characteristics that strengthens the state's ability to achieve their goals (Soifer & vom Hau, 2008). This state input-centered approach usually includes further requirements: (a) administrative competence of Weberian concept of bureaucratic

professionalism which is based on meritocratic recruitment, standardized procedures and predictable careers; (b) territorial reach of state across the national territory; and (c) capacity measures which largely use extractive capacity in terms of tax collection. The extractive capacity measures ability of the state to collect resources from society that enable the state to work on other areas (Fukuyama, 2013; Singh & vom Hau, 2015; Soifer & vom Hau, 2008). Besides these, other scholars have added bureaucratic autonomy as an additional measure and component of state capacity (Cingolani, Thomsson, & Crombrughe, 2015; Fukuyama, 2013; vom Hau et al., 2013). It can be defined as the separation between politics and administration (Cingolani et al., 2015). Looking from an agent-principal framework, autonomy enables agents as bureaucratic officials to manage their own goals independently without intervention from political principals.

Since the concept of state capacity has been employed in various disciplines, the measures of state capacity have been widely developed in line with discipline and research focus. Driven by interests in state outcomes, many works on state capacity have focused on the effect of state capacity on violent conflicts, investment climates, and countries' economic performances. In conflict studies, for instance, military capacity, coercive capacity, and quality of political institutions are often considered as measures of state capacity (Albertus & Menaldo, 2010; Hendrix, 2010; Hendrix & Young, 2014). Additionally, some studies also use legal capacity as a measure of state capacity in the context of property rights and taxation (Besley & Persson, 2009). Unfortunately, this wide development of state capacity measures has overlooked the importance of procedural and organizational aspects of the state rooted in the Weberian concept of bureaucracy (Cingolani et al., 2015). To address this problem, the input-centered approach was used in this study to examine the effect of bureaucratic aspect of

state capacity on maternal mortality. For example, bureaucratic quality and the level of corruption from the International Country Risk Guide (ICRG) were used to measure bureaucratic capacity of the state, as well as the use of tax revenue to examine measure extractive capacity of the state.

Decentralization

Decentralization implies a transfer of authority, responsibility, resources, and accountability from central to local governments (Falleti, 2013). Decentralization can be implemented in a number of different forms such as deconcentration (authority redistribution in decision making), devolution (transfer of power or even full power on some policies to local autonomous governments), and delegation (a closer involvement of a semi-autonomous institutions in policy making) (Irawan, 2014; Prud'homme, 1995). Accordingly, decentralization can be classified into three different types: fiscal, administrative and political decentralization (Falleti, 2013). While fiscal decentralization provides local government authority to generate revenue through taxation and decide how to spend that revenue through local budgeting process, administrative decentralization provides power for local governments to manage their bureaucratic and administrative issues especially over civil services and human resources. Finally, political decentralization allows the local direct election for local legislatures and executives (Malesky & Hutchinson, 2016).

Since the cases in this study, particularly Indonesia and the Philippines, had implemented all types of decentralization (fiscal, administrative, and political decentralization), this study focused on integrated effect of decentralization referring to all types of decentralization. The use of regional authority index (RAI) in this study, for example, is able to measure three types of decentralization.

Theoretical and Policy Contributions

By answering the research questions indicated previously, this dissertation research may fill in the gap in sociological knowledge about political and institutional contribution to maternal mortality disparities in several ways. First, the study contributes to the study of political sociology of public good provision by looking at the impact of decentralization and state capacity on development such as reduction of maternal mortality. As far as the focus of sociological research on state capacity is concerned, most of empirical works on this subject are concentrated on the impacts of state capacity on conflict, violence, and economic performance. Second, this study contributes to the literature on decentralization and state capacity by highlighting the importance of power-sharing arrangement between central and local government. Literature on the state often associates a strong state with a centralized state. On the other hand, the proponents of decentralization have rejected the idea of strong state as a centralized state by arguing that a decentralized state is more effective in strengthening state (Faguet et al., 2015). Instead of strengthening, however, some studies have indicated that decentralization could weaken state by reducing central government authority to control and monitor its localities which lead to corruption and elite captures (Hadiz, 2004; Veron, Williams, Corbridge, & Srivastava, 2006). In responding to these different arguments, this researcher argues that a strong decentralized state characterized with a high level of central and local government capacities is necessary for the success of decentralization in fulfilling its promises. Third, since the concept of state capacity is derived from Weberian conceptual understanding of bureaucracy, this study may also advance our understanding on the importance of modern bureaucracy for public efforts to achieve development agendas. It particularly contributes to the understanding of social-embeddedness – social ties that link the state to society (Evans, 1995), among “street-level

bureaucrat” (Lipsky, 1980) – public service officials who interact directly with the public in the policy implementation process (Pepinsky, Pierskalla, & Sacks, 2017). While the concept of embeddedness has been long developed in the studies of state and bureaucracies in general, the examination of social embeddedness among street-level bureaucracy such as health providers is still limited.

Fourth, besides national-level analysis, this study also looked at the subnational-level analysis with Indonesia as the case study. While the former is important to analyze cross country differences, the latter is also important for analyzing within a country differences. Subnational analysis becomes an important site for policy making as: first, it directly relates to people in the grassroots and national level analysis is basically based on its sub-national context; and second, what works at the national level might not work at every local context due to inequality and disparities across localities.

Methodologically speaking, this study may also provide a novel contribution to the study of maternal mortality by specifying a bridging causal mechanism that enables researchers to examine root causes (“causes of the causes”) of maternal mortality. For this purpose, this study used structural equation modeling (SEM) to specify this causal mechanism. A unique dataset was also used at local units of analysis by focusing on Southeast Asian countries and especially Indonesia that have been under-studied. The case of Indonesia is particularly important due to its maternal mortality rate and the increasing scale of its diversity.

Finally, with regards to policy implications, this study should also contribute to current efforts to lower MMR by expanding the focus of policy intervention not only in medical and clinical aspects of maternal mortality but also in political and institutional

dimension of the issue, namely in the nature of state capacity, decentralization and how they affect the provision of public health care and services. The results of this study may also provide more comprehensive and effective strategies to deal with the complexity of MMR beyond the limited scope of medical and other types of technical interventions.

In short, the findings of this study revealed the importance of investing in the improvement of state capacity for the reduction of maternal mortality. A high-quality government would be more responsive and be able to effectively ensure all citizens' rights to receive better healthcare and services regardless of their social, ethnic, and religious identities.

Organization of the Dissertation Chapters

The dissertation is organized as follows. Chapter 1 provides an introduction to the study. It explains the background, questions, and methodology to conduct the research. It includes an introduction to the sociological theory used in the study, definition of concepts, academic and policy contributions of the study, and organization of the dissertation.

Chapter 2 examines the extent to which the decentralization and state capacity affect the maternal mortality disparities in Southeast Asia. While many studies have paid much attention to decentralization and its effects on health outcomes, the effects of decentralization on maternal mortality is still unclear. Southeast Asia is an interesting case in point. Although Southeast Asian countries have implemented decentralization reforms, including those related to the provision of health services, MMR in the region remains high. Without neglecting the decline of MMR in Southeast Asia during the last few decades, disparities among countries still persist in the region. What explains this variation? Why did decentralization reduce MMR more in some countries but not in others? Drawing on a comparative historical analysis of two countries in Southeast Asia (Indonesia and

Philippines) and the random effect of the panel data analysis, this chapter examines the importance of state capacity as institutional preconditioned for the success of decentralization in reducing maternal mortality. This chapter also highlights the historical, political and institutional dynamics particularly in the beginning of the decentralization implementation in shaping the effectiveness of decentralization on bringing about better health outcomes such as maternal mortality reduction.

Chapter 3 analyzes the extent to which state capacity affects maternal mortality disparities in a socially fragmented nation. Compared to other Southeast Asian countries, the slow reduction and disparities in Indonesia's maternal mortality have provided an interesting puzzle to explain this disparity. By emphasizing state capacity and social fragmentation, this chapter addresses "causes of the cause" or "fundamental causes" of maternal mortality disparities at sub-national levels of Indonesia. Considering the variations of state formation in the local government levels following the implementation of decentralization policy, this study also addresses the variations of state capacity and maternal mortality in new and old districts.

Chapter 4 scrutinizes the effect of local government proliferation on the maternal mortality disparities. Following the implementation of decentralization, there have been significant increases in territorial splits in developing countries. While there has been a growing interest in examining the determinants of the local government proliferation, the consequences of the proliferation on public health services and outcomes are still underexplored. Drawing on a comparative study of four districts in Indonesia (Ambon and Ternate as old districts, and East Seram and North Halmahera as new districts), this study highlights the importance of local government capacity, particularly in terms of bureaucratic

and fiscal capacities to effectively fund and deliver maternal health care and services. This study also addresses the concept of social-embeddedness in bureaucracy with particular attention to street-level bureaucrats and their contribution to the effectiveness of public service delivery.

Chapter 5 concludes and summarizes the research. In general, this dissertation research empirically examined the interconnection between decentralization and state capacity and their effects on maternal mortality disparities. The main argument in this research is: to meet its promises, decentralization will require a high level of state capacity at both national and local levels of government. The mechanism behind this argument is that decentralization affects maternal mortality disparities through the variations of state capacity at both national and local government capacities. A glossary of key terms used in the dissertation is provided in the Appendix.

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CHAPTER 2. DECENTRALIZATION, STATE CAPACITY AND MATERNAL MORTALITY REDUCTION IN SOUTHEAST ASIA

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Abstract

The proponents of decentralization argue that decentralization will improve the quality of public services, including those in health provision. However, the evidence suggests that the effect of decentralization on health provision has been mixed. What explains this discrepancy? Drawing on a comparative historical analysis of maternal mortality reduction in Indonesia and the Philippines, and panel data analysis of Southeast Asia countries, this study addressed this question by analyzing the extent to which decentralization contributes to reducing maternal mortality ratio. Using historical institutionalist framework, the researcher argues that the effectiveness of decentralization in improving maternal health outcomes is dependent on the level of state capacity of both central and local governments. Contrary to previous studies that have suggested a “Big Bang”/rush approach to decentralization will likely result in negative outcomes in the quality of public service provisions, this researcher argues that the level of state capacity plays an important role in shaping the impact of the “Big Bang” approach to decentralization on maternal mortality reduction. The researcher also argues that existing structural conditions, as well as the political and institutional dynamics, play an important role in shaping the success of decentralization in bringing about better public health outcomes.

Keywords: Decentralization, “Big Bang”, Maternal Mortality, Disparities, Southeast Asia

Introduction

This study examined the effect of decentralization¹ and state capacity on maternal health. The supporters of decentralization have argued that decentralization will increase public health spending and the quality of health services, and ultimately improve health outcomes (Ghuman & Singh, 2013; Kruse, Pradhan, & Sparrow, 2010; Lieberman, Capuno, & Minh, 2005). Nevertheless, some evidence has suggested that the impact of decentralization on health has been mixed (Ghuman & Singh, 2013). Decentralization helped improve health outcomes in some cases but not in others. Many studies have concluded that rather than improving the efficiency, equity and effectiveness of health care provision, decentralization can lead to opposite outcomes, such as exacerbating inequities, weakening local commitment to health priorities, as well as decreasing the efficiency and effectiveness of health service delivery (Bossert & Beauvais, 2002; Lakshminarayanan, 2003; Langran, 2011).

Decentralization has long been promoted as a means to improve state capacity and public service provision in developing countries. However, some empirical studies in developing countries have suggested that institutional defects can lead to inefficiencies in a decentralized system. In Uganda, for instance, some evidence revealed that weak state capacity constrained the effectiveness of decentralization in improving public health provisions and services (Nannyonjo & Okot, 2013). Rather than bringing about positive outcomes, decentralization might produce negative effects such as elite capture, localization of corruption, free rider and budget restraints if the implementation of decentralization were

¹ Defined as the transfer of authority, responsibility, resources, and accountability from the central to the local government (Falleti, 2013).

not supported by quality of state capacity in both central/national and regional levels (Tan, 2019; Veron, Williams, Corbridge, & Srivastava, 2006).

Variation among Southeast Asian countries is an interesting case in point in relation to the maternal mortality ratio (MMR). During the last few decades, many countries in the region have pursued decentralization reforms, including those related to health care provision. Nevertheless, the impact of decentralization on maternal mortality reduction varied across countries in the region. Some countries did reduce MMR faster than others (WHO, 2014). What explains this variation? Why did decentralization reduce MMR more in some countries but not in others?

While several studies have paid much attention to decentralization and its effects on health outcomes, they paid scant attention to the conditions under which decentralization is likely to reduce maternal mortality. A few studies have attempted to explain the effect of decentralization on the increase/decrease in maternal health care services, such as antenatal care utilization and skilled attendance at birth (Hartwig et al., 2017; Nathan et al., 2015), but they did not pay adequate attention to the outcomes of these services. These studies also ignored the historical context, and political and institutional dynamics that explain increases or decreases in maternal health services. Health is a political issue as health service provision requires government action and decision-making to produce desirable outcomes (Brown, 2010; Oliver, 2006). Thus, understanding political factors, such as decentralization and state capacity, is important to explain how states can exercise their public authority to bring about better health outcomes for their population, including maternal mortality.

Drawing on a comparative analysis of Indonesia's and the Philippines' progress in reducing MMR and statistical analysis on Southeast Asian countries, this study demonstrated

that the effectiveness of decentralization is dependent on the level of state capacity in supporting the implementation of decentralization policies. Additionally, the findings also revealed that the success of decentralization depends on structural conditions such as political and institutional dynamics in which the decentralization was implemented. Regardless of the approaches taken by a country to implement decentralization, whether a “Big Bang”/rush or gradual one, lack of state capacity will affect the effectiveness of decentralization in public service delivery.

The theoretical framework of the study is presented next, and discusses the relationships between decentralization, state capacity and maternal mortality as well as the linkages between historical institutionalism, decentralization, and state capacity. Then the framework is applied to explain the linkages between state capacity and bureaucratic quality. The data and methods used to carry out the analysis focus on a comparative analysis of Indonesia and Philippines and statistical analysis of Southeast Asian countries. The paper ends with a conclusion of the study.

Decentralization, State Capacity, and Maternal Mortality

Two major perspectives have dominated the voluminous literature and discussion on the relationship between decentralization and state capacity. The first perspective considers decentralization as one of the major factors that has contributed to strengthening local state capacity. According to this line of argument, decentralization will raise competition between local governments/political elites which, in turn, will motivate them to provide better public services at lower prices (Faguet, 2014). The increase in competition results from the growing incentives of local politicians to demonstrate their ability to govern, and advance their

political power and grasp of the decentralized system (Faguet, 2014). Therefore, decentralization is good for the improvement of state capacity.

In contrast, the second perspective suggests that state capacity is a precondition for the success of decentralization (Tan, 2019). Proponents of this perspective have argued that instead of competition between local governments, it is cooperation and coordination between different levels of government as well as civil society and private actors that lead to better state capacity (Warner, 2003; Warner & Hefetz, 2003). Rather than being the outcome of decentralization, many have argued that strong state capacity at both the central and regional level is a necessary precondition for decentralization as the success of decentralization requires a high degree of central state capacity to coordinate various levels of local governments by setting regulations for monitoring local governments' transparency and accountability (Heller, 2001). Decentralization in weak states will only accommodate local elites (Heller, 2001). Studies on several African countries such as South Africa, Botswana, Nigeria, Ghana, Chad, Uganda and Kenya, for instance, have revealed that an effective local government and autonomy, effective institutions of collective action, open and accountable political processes, as well as adequate local resources, are the necessary conditions for the success of decentralization reforms (Olowu & Wunsch, 2004). Others have further argued that decentralization is not a technical instrument to improve state capacity but that the success of decentralization reforms are highly intertwined in the countries' political setting (Saito, 2005). Drawing on these works, this researcher has argued that the success of decentralization policy to bring better health outcomes, namely reduction in maternal mortality, is highly dependent on national and local state capacity.

Historical Institutionalism, Decentralization, and State Capacity

A historical institutionalism perspective can be employed to explain the effect of decentralization on MMR. A structural-functionalist framework focuses on the functions of institutions to maintain equilibrium and rational institutionalism framework emphasizes the actors' rational calculations to explain institutional changes. In contrast, historical institutionalism focuses on historical processes that define the reform and its outcomes (Kent Eaton, 2004). More specifically, historical institutionalism pays a great deal of attention to "timing, sequencing, and interaction of specific political-economic process" (Thelen, 1999, p. 385) as these play an important role in understanding long-term causes of institutional changes as well as their consequences (Pierson, 2005). Additionally, the sequence of events might lead to different historical processes in which the earlier events would have a greater influence than those of the later events (Pierson, 2004; Thelen, 2003).

According to historical institutionalism, political and institutional reforms are likely to take place under a critical juncture or situation of contingency that enables some usually constrained actions to be eased or lifted (Mahoney & Thelen, 2010). These critical junctures will lead to dependent processes that open the opportunity for important actors to select one path of institutional development over other possible paths (Capoccia, 2016). In case of this study, political and economic crisis can be considered as the critical juncture that influence countries' decision to implement decentralization.

In this context, historical institutionalism emphasizes the social causation of path-dependent processes and rejects functional perspectives that assume that the same forces will generate the same results. In contrast, historical institutionalism argues that those forces might lead to different paths contingent on contextual features of a certain condition often inherited from the past (Hall, 1996). Similarly, historical institutionalists also consider that

the historical sequences and path dependence have deterministic causal patterns (Mahoney, 2000). Therefore, historical institutionalism would accentuate unintended consequences and inefficiencies produced by the existing institutions (Hall, 1996).

Related to decentralization, historical institutionalism would view decentralization differently from structural-functionalism and rational institutionalism. Structural-functionalism would suggest that the implementation of decentralization would bring positive outcomes. Even though it might lead to inefficiency and ineffectiveness, these are seen as means to maintain equilibrium in society. On the other hand, while rational institutionalism would consider decentralization as the result of rational calculation of national and subnational political elites, historical institutionalism would focus on the contextual understanding of certain situations that have brought about decentralization. Therefore, understanding critical junctures, path-dependent and unintended consequences of decentralization would be important to examine the outcomes of decentralization. Similarly, in the context of state capacity, historical institutionalism would emphasize the critical junctures, path dependences and unintended consequences that shape and change state capacity over time

State capacity, which has been used interchangeably with other terms like governance, state strength, institutional quality and quality of government (Fukuyama, 2004), can be defined as the ability of state institutions to create and enforce rules, to deliver services, and implement policies (Fukuyama, 2013; vom Hau, Sen, & Yanguas, 2013). As a multidimensional concept, state capacity has been measured in various ways. These measures can be based either on output or input approaches (Soifer, 2016). The former focuses on the outcomes of what state has implemented, such as provisions on public goods and services

(Singh & vom Hau, 2015). Nevertheless, this output/outcome approach has been criticized for being problematic and invalid as it requires other state capacity measures such as procedural and normative measures (Fukuyama, 2013). For example, to examine the effectiveness of provisions of public goods, it needs other state capacity measures like quality of government.

Unlike the output-based approach, the input-based approach, which will be used in this study, defined state capacity in terms of specific institutional characteristics that strengthen the state's ability to achieve their goals (H. Soifer & vom Hau, 2008). For example, this state input-centered approach emphasizes the importance of bureaucratic quality referring to the administrative competence of the Weberian concept of modern and professional bureaucracy (Fukuyama, 2013; Singh & vom Hau, 2015). The concept of bureaucratic quality also endorses several important aspects. First, the absence of corruption is an important feature of strong quality of bureaucracy and professional bureaucrats do not abuse/misuse their public power for private benefits (Rothstein & Teorell, 2008). Second, professional bureaucracy should be based on meritocratic recruitment, standardized procedures, and predictable careers (Fukuyama, 2013; Rauch & Evans, 2000). Third, bureaucratic autonomy referring to the separation between politics and administration, enables bureaucrats to manage their own goals independently without intervention from political pressures (Cingolani, Thomsson, & Crombrugghe, 2015; Fukuyama, 2013). In short, state capacity that is clean, meritocratic and autonomous bureaucracy is expected to deliver better provisions of public goods and services.

Data and Methods

This research used both qualitative and quantitative methods. By applying comparative historical analysis, the qualitative method focused on how historical and political dynamics of decentralization and state capacity affect maternal mortality. Two countries were compared – Indonesia and the Philippines – to elucidate the conditions under which decentralization is more effective in lowering maternal mortality. The comparative historical analysis emphasizes the importance of historical events on the dynamics of social and political processes (Skocpol, 2003). It was anticipated that a comparison between Indonesia and the Philippines would provide a better understanding of the social and political conditions that have contributed to maternal health disparities. The comparative historical analysis method is instrumental for theory-building by focusing on the sequence of historical processes to establish a causal mechanism linking decentralization, state capacity and maternal mortality reduction (Kang, 2014; Skocpol & Somers, 1980). Therefore, data were gathered from various secondary sources, including state documents and statistical data such as the World Development Indicator and Regional Authority Index compiled by several agencies or researchers. Both case-oriented and variables strategies were applied to analyze the data (Miles, Huberman, & Saldana, 2014). The former looks at patterns between cases and later looks at themes/variables that cut across the cases. While case-oriented analysis helps to find concrete, specific historical patterns, variable-oriented strategies help to determine causal relationship among variables (Miles et al., 2014).

Quantitative analysis was carried out by accessing random effect of panel data analysis of Southeast Asian countries from 1990-2011 to assess the relationship between decentralization and state capacity on maternal mortality disparities in Southeast Asian countries. This quantitative analysis functions as theory-testing to confirm the theory-

building in the qualitative analysis. The details of method data analysis are discussed in the following sub-sections.

Case Selections of Qualitative Analysis

Comparative historical analysis was applied to explain the causal mechanism that links state capacity, decentralization and the reduction of maternal mortality in Indonesia and the Philippines. As argued by Skocpol (2003), comparative historical analysis seeks to uncover causal mechanism linking an outcome and its hypothesized independent variables by examining the historical processes that shape the occurrence of both the outcome studied and its hypothesized causal factor. The method generally relies on a small number of cases. Although a single case study could help to generate working hypotheses and a causal mechanism for certain phenomenon, a pair of two cases provides stronger evidence of the causal mechanism of varied phenomena/outcomes (Rueschemeyer, 2003).

In this study, a comparison was made of the reduction of maternal mortalities in two countries, Indonesia and the Philippines (see Figure 1). The two countries were selected based on the “Method of Difference” which suggests that cases share many similarities except in the phenomenon to be explained and the hypothesized causes which can be helpful to establish the necessary cause of the phenomenon under study (Mahoney, 2003; Skocpol & Somers, 1980). In line with this proposition, Indonesia and the Philippines were selected to identify the causal mechanism linking decentralization, state capacity and maternal mortality.

Compared to other Southeast Asian countries such as Singapore, Malaysia, Thailand and Vietnam, Indonesia and the Philippines have often been considered as countries that have a high level of maternal mortality (Acuin et al., 2011). The two countries share the same historical and political conditions that influence the countries’ institutional reform and

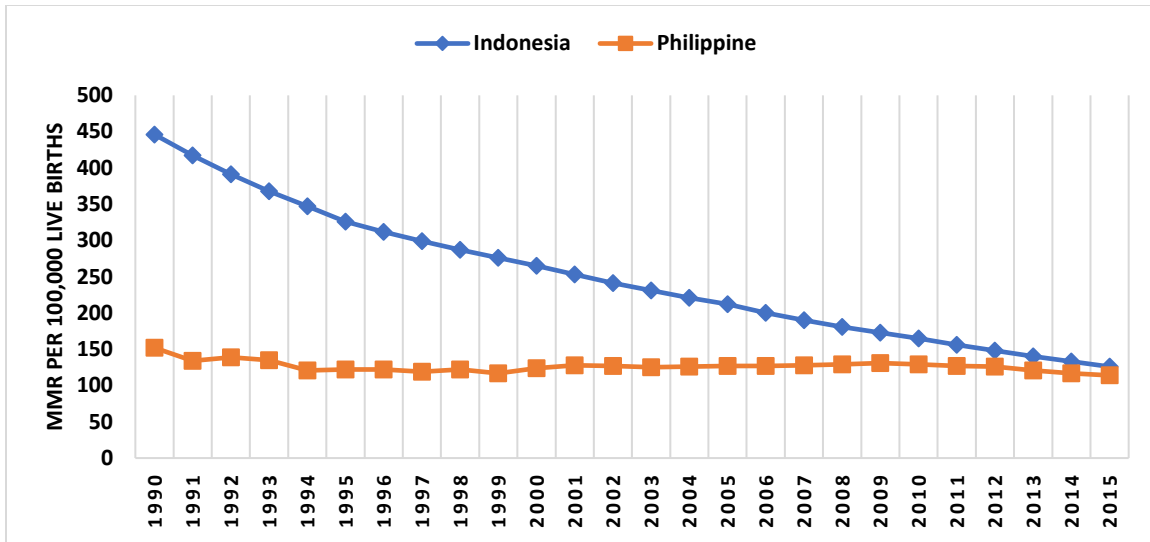


Figure 1. Maternal Mortality Ratio of Indonesia and the Philippines, 1990-2015
(Source: World Development Indicators, World Bank 2019)

decision to implement “Big Bang” approach of decentralization, the same types, and forms of decentralization (see Table 1). See details of case selection method in Table 1. However, as shown in Figure 1, the pace of MMR reduction in Indonesia differs significantly from that of the Philippines.

Given the focus of this study on decentralization, and the fact that these two countries launched decentralization policies at different times, it was important to focus on when decentralization was first implemented in the two countries. While the Philippines started the policy in 1991, Indonesia implemented the decentralization policy in 1999. As Figure 1 shows, the two countries had different starting points. However, five years after the implementation of the decentralization policy, MMR declined by 19.93% in Indonesia (1999-2004), but it only decreased by 8.96% in the Philippines (1991–1996). Taking a longer perspective, one can see that Indonesia had reduced its MMR by 56.10% in 2015 after 17 years of decentralization, whereas the Philippines had decreased its MMR by 15.79% in 2007 after 17 years of decentralization.

Table 1. Method of Difference of Case Selection

	Indonesia	Philippines
Phenomenon Explained		
<i>Maternal Mortality Reduction</i>	<i>Large</i>	<i>Small</i>
Percent of MMR Decrease (17 years after decentralization)	56.10%	15.79%
Percent of MMR Decrease (5 years after decentralization)	19.93%	8.96%
Hypothesized Causes		
<i>State Capacity</i>	<i>High</i>	<i>Low</i>
Bureaucratic Quality (Average of 17 years after decentralization)	2.14	2.09
Bureaucratic Quality (Average of 5 years after decentralization)	2.36	0.87
Level of Corruption ICRG (Average of 17 years after decentralization)	2.13	2.48
Level of Corruption ICRG (Average of 5 years after decentralization)	1.17	2.75
Level of Decentralization (Average of Regional Authority Index 11 years after decentralization implemented)	16.69	11.27
Other Conditions		
Decentralization Approach	“Big Bang”	“Big Bang”
Types of Decentralization	Administrative, Financial and Political	Administrative, Financial and Political
	Decentralization	Decentralization
Forms of Decentralization	Devolution	Devolution
Democracy Level	High	High

Source: Author’s calculation based on the data from World Development Indicators, 2019.

In terms of hypothesized causes, in the 17 years after decentralization, state capacity in Indonesia was slightly higher than that of the Philippines based on measures of bureaucratic quality as well as the level of corruption in the countries. The differences in these measures of state capacity were higher in the first five years after decentralization in both countries (see Table 1).

Dependent and Independent Variables of Quantitative Analysis

The *dependent variable* for this study was maternal mortality rate, or the number of pregnancy-related deaths per 100,000 live births which include the death during pregnancy or within 42 days of termination of pregnancy (WHO, 2015). The data were provided by the

Institute of Health Metrics and Evaluation (IHME)². Maternal mortality data from WHO and World Bank were also used for comparison as the two sets of data were relatively similar. Nevertheless, as IHME's data set covered more countries and a longer time period than that of the WHO and World Bank, the researcher decided to use the IHME's data set.

The *Independent variables* included political variables such as regional authority index (RAI), bureaucratic quality, levels of corruption, and democracy; health variables such as health expenditure and maternal health cares; and socioeconomic and demographic variables such as GDP and population density. Table 2 illustrates the descriptive statistics for all variables.

Table 2. Descriptive Statistics

Variables	Obs	Mean	Std.Dev.	Min	Max
MMR	220	224.20	239.40	6.8	920.3
RAI	220	7.67	6.94	0	24.67
Polity2	220	-0.39	6.01	-10	9
Corruption	220	2.77	1.11	.33	5
Bureaucratic Quality	220	2.25	1.02	0	4
Skilled Birth Attendance	220	69.56	28.45	6.74	100
Antenatal Care	220	79.06	18.60	24.83	100
Health Expenditure	220	1.56	0.73	0.03	3.59
GDP	220	18286.78	26612.49	728.03	86423.3
Population Density	220	698.30	1767.78	18.45	7363.19
Ethnic Fractionalization	220	0.46	0.17	0.21	0.74

First, to measure decentralization, the study uses data from the regional authority index, which is based on two main concepts of self-rule (the authority exercised by a regional government over those who live in the region) and shared rule (the authority exercised by a regional government or its representatives in the country as a whole) (Hooghe et al., 2016).

² It is a research institute focusing on global health data and analysis at the University of Washington, Seattle USA. The IHME data are complementary to the United Nations and the World Health Organization data.

Self-rule is measured using five dimensions: (1) institutional depth – the extent to which a regional government is autonomous; (2) policy scope – the series of policies for which a regional government is responsible; (3) fiscal autonomy – the extent to which a regional government can independently tax its population; (4) borrowing autonomy – the extent to which a regional government can borrow; and (5) representation – the extent to which a region has an independent legislative and executive. Shared rule, on the other hand, is measured by: (1) law making – the extent to which regional legislatures co-determine national legislation; (2) executive control – the extent to which a regional government co-determines national policy in intergovernmental meetings; (3) fiscal control – the extent to which regional legislative co-determines the distribution of national tax revenues; (4) borrowing control – the extent to which a regional government co-determines subnational and national borrowing constraints, and (5) constitutional reform – assesses authority over the constitutional changes (Hooghe et al., 2016).

Second, two variables from the International Country Risk Guide (ICRG, 2014) namely bureaucratic quality and corruption, were used to measure state capacity. The former measures institutional strength and quality of bureaucracy ranging from 0-4. The later measures corruption within the political system, which is considered as a threat hindering the efficiency of government. The score ranged from 0-6. The high score indicates the prevalence of corruption among public officials, while the low the score suggests less corrupt governments. The ICRG data are commonly used by studies on state capacity (Cingolani et al., 2015; Hendrix & Young, 2014; Reinsberg, Kentikelenis, & King, 2019). These measures have a high correlation with some other measures of state capacity such as Weberianness

index of bureaucracy developed by Evan and Rauch (1999) and professionalism of public administration by the Quality of Government Institute (Reinsberg et al., 2019).

Third, the variable of polity2 was used to measure the level of democracy and autocracy from 10 to -10 (Gurr & Marshall, 2017). The higher the score, the more democratic the country is. Similarly, the smaller the score, the more autocratic the country is. In the statistical analysis, the level of democracy is coded on a continuous scale ranging from 10 to -10. The polity2 variable can be classified into three types of regimes: democratic, anocratic (neither democratic nor autocratic), and autocratic (Gowa, 1999).

In terms of health, this study included the proportion of pregnant women who received prenatal care, a birth assisted by skilled health personnel, and government health spending as the share of the total GDP. The researcher controlled for the effect of economic development and urbanization by including GDP per capita (PPP, constant 2011 international \$) and population density, respectively. These data are part of the World Development Indicators from the World Bank. Finally, this study includes ethnic fractionalization data to control the effect of social diversity (Alesina, Devleeschauwer, Easterly, Kurlat, & Wacziarg, 2003). Further descriptions of the variables and data sources are located in Appendix B.

Analytical Procedures and Model Specification of Quantitative Analysis

Data in this analysis were missing at random; therefore, to deal with the problem of missing data, the researcher employed an imputation procedure using maximum likelihood estimation (MLE)³. The procedure can produce good estimates for missing cells that are

³ While MMR, Population Density and Ethnic Fractionalization have complete data, there are one and 10% of missing data on GDP and Polity2 respectively. Approximately 20% of data are missing at random in other variables in the analysis

statistically efficient, consistent and unbiased (Peters, 2015). In general, most of the variables had relatively low and moderate correlations (see Table 3.).

Panel data analysis was used for statistical analysis in this study. More specifically, the study used a random effect model, which assumes that the differences across countries and/or time (year) have some effects on maternal mortality rate. This choice was based on the results of the Hausman test, which shows non-significant values ($X^2=1.09$, p -value=0.30)

Table 3. Matrix of Correlations

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(1) MMR	1.00										
(2) RAI	-0.06	1.00									
(3) Polity2	-0.37*	0.43*	1.00								
(4) Corruption	-0.31*	-0.02	-0.03	1.00							
(5) Bureaucratic quality	-0.65*	-0.10	-0.25*	0.45*	1.00						
(6) Skilled birth	-0.63*	-0.12	0.32*	0.07	0.62*	1.00					
(7) ANC	-0.45*	-0.14*	0.38*	-0.12	0.38*	0.77*	1.00				
(8) Health expend	-0.46*	-0.01	0.09	0.37*	0.20*	0.21*	0.12	1.00			
(9) GDP	-0.46*	-0.41*	-0.04	0.40*	0.66*	0.60*	0.35*	0.25*	1.00		
(10) Population density	-0.31*	-0.34*	-0.08	0.43*	0.52*	0.36*	0.12	-0.17*	0.44*	1.00	
(11) Ethnic fractionalization	0.05	0.25		-0.10	0.10	0.25*	-0.25*	0.02	0.15*	-0.16*	1.00

Standard errors in parentheses: * $p < 0.1$.

indicating that random effect is the more preferable model than fixed effect. Additionally, the results of Breusch-Pagan Lagrange Multiplier (LM) test were significant at <0.0001 , which indicates there is evidence of significant differences across countries, and the panel random effect model is more preferable to OLS. The model tested can be seen in the following equation:

$$Y_{it} = \alpha + \beta X_{it} + u_{it} + \varepsilon_{it}$$

in which Y_{it} is MMR across countries and time (year), α is intercept, βX_{it} is the slope or estimate of independent variables across countries and year, u_{it} is between-entity error and ε_{it} is within-entity error.

Comparative Analysis of Indonesia and the Philippines

Historical Context and Motivation

As a form of political and institutional reform, decentralization in Indonesia and the Philippines resulted from a variety of motives. In Indonesia, decentralization emerged as a direct response to multidimensional economic and political crises hitting the country after the fall of Suharto's military regime in 1998. In 1999, the Indonesian government passed Law No. 22 on Regional Government and Law No. 25 on Fiscal Balance between the central and regional governments, which were later amended by Law No. 32 in 2004 and by Law No. 33 in 2004 (White & Smoke, 2005). These laws provided the legal basis for the implementation of decentralization in Indonesia. Similarly, a series of political crises in the Philippines after the fall of Marcos military dictator contributed to the implementation of decentralization policies. In 1987, under the Aquino administration, the Philippine government ratified a new Constitution that gave autonomy to local governments. The decentralization process officially commenced in 1991 with the enactment of the Local Government Code (Lieberman, 2002; White & Smoke, 2005).

In summary, Indonesia and the Philippines shared similar political and economic motives for decentralization. Referring to historical institutionalism, the political and economic crises in Indonesia and the Philippines can be considered as the critical juncture that influenced the implementation of decentralization in these two countries. Additionally, decentralization has often gone hand-in-hand with democratization, with the latter often considered as the pivotal triggering factor for the former (White & Smoke, 2005). Decentralization is also used to legitimize democratic governments (Mitchell & Bossert, 2010). Indonesia and the Philippines, for instance, commenced the decentralization process at

the same time as democratic transition or consolidation was pursued after the fall of military regimes. This explains why decentralization expands mostly under democratic regimes rather than authoritarian ones (Shair-rosenfield, Marks, Craige, & Hill, 2012).

“Big Bang” Approach to Decentralization

Partly due to similar political problems, which involved center-periphery conflicts between the central and regional governments, the two countries chose the same approach to decentralization. Often known as a “Big Bang” approach to decentralization, this approach has two defining characteristics. “It is holistic (comprehensive) and implemented at lightning speed” (Shah & Thompson, 2004). Shah and Thompson further argued that the “Big Bang” approach expects all pieces of the puzzle fit together so that the expected promise of decentralization can be achieved. However, the “Big Bang” approach often happens when the national and local governments are lacking administrative capacity to effectively implement policies (Gómez, 2008)

Under the “Big Bang” approach, both Indonesia and the Philippines decentralized the provision of health services through a massive transfer of health personnel and health facilities such as hospitals and clinics, to local governments in a very short time. The Philippines government finished these transfers in 1993, just two years after the 1991 Local Government Code had been implemented. Meanwhile, Indonesia completed these transfers in 2001, less than two years after the enactment of the 1999 Decentralization Laws (Lieberman et al., 2005).

Nevertheless, the “Big Bang” approach often resulted in unclear regulations and functional responsibilities between different tiers of the government. This can be seen, for instance, in the management of human resources. Local governments in Indonesia and the

Philippines increased the number of their employees considerably (Green, 2005). Therefore, rather than being spent on health care services, the local health budget allocation for local governments in both Indonesia and the Philippines was spent on paying personnel salaries, due to a very significant increase in the number of regional civil servants (Adashi et al., 2013).

Under the “Big Bang” approach, Indonesia and the Philippines shared quite similar strategies, types, and levels of decentralization. First, in terms of strategies, under the “Big Bang” approach, decentralization frameworks were designed quickly. Because of this, comprehensive details of implementation were often missing. As in the case of Indonesia, there was no formal strategy or clear action plan for the implementation of decentralization. Similarly, in the case of the Philippines, although three general strategies were set up, it remained unclear how the country followed the strategies (White & Smoke, 2005). Eaton et al. (2010), for instance, suggested that when a crisis has dominated the motive for decentralization, it is likely that the country is going to decentralize too much, too quickly which could lead to serious problems such as unclear strategies, fragmented coordination, and monitoring systems.

Second, in terms of the type of decentralization, Indonesia and the Philippines decided to implement administrative, fiscal and political decentralization at the same time. Among the two countries, Indonesia has implemented comprehensive fiscal decentralization in which the local government is granted greater authority over revenue collection and expenditure (Weingast, 2014). Similarly, the Philippines also implemented comprehensive fiscal decentralization with a significant increase in revenue sharing to the provincial government (Malesky & Hutchinson, 2016). In terms of administrative decentralization,

various public services in the two countries have been devolved to district governments including healthcare. Political decentralization has been implemented in both Indonesia and the Philippines which allows for the direct election of officials at the sub-national level of government (Malesky & Hutchinson, 2016).

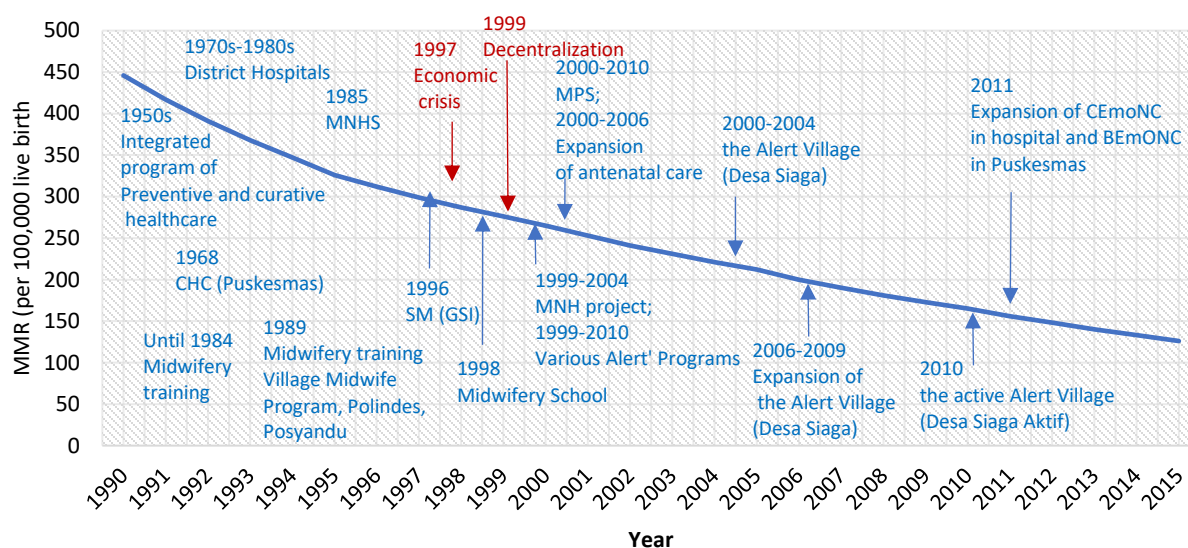
Third, in terms of the form of decentralization, it can be implemented in the form of de-concentration (authority redistribution in decision making), devolution (transfer of power to local autonomous governments), and delegation (a closer involvement of semi-autonomous institutions in policy making) (Irawan, 2014; Prud'homme, 1995). Both Indonesia and the Philippines applied a radical form of devolution in various sectors, including health as the first sector to be decentralized (Lieberman, 2002).

In terms of inter-governmental structures Indonesia and the Philippines, with their devolution policies, were oriented to sub-provincial levels: districts or municipalities (White & Smoke, 2005). Although this type of devolution policy can bring authority closer to local people, local governments' weak capacity and unclear responsibilities may lead to coordination problems and fragmented functions between different layers of the government, which can hamper policy initiatives, implementation and outcomes (Bardhan & Mookherjee, 2006; Firman, 2009).

While both Indonesia and the Philippines chose the same “Big Bang” approach to decentralization, the differences in the level of state capacity in both countries has led to different implementation and outcomes of decentralization in reducing maternal mortality. The details are discussed in future sections.

Healthcare System Development and MMR Reduction

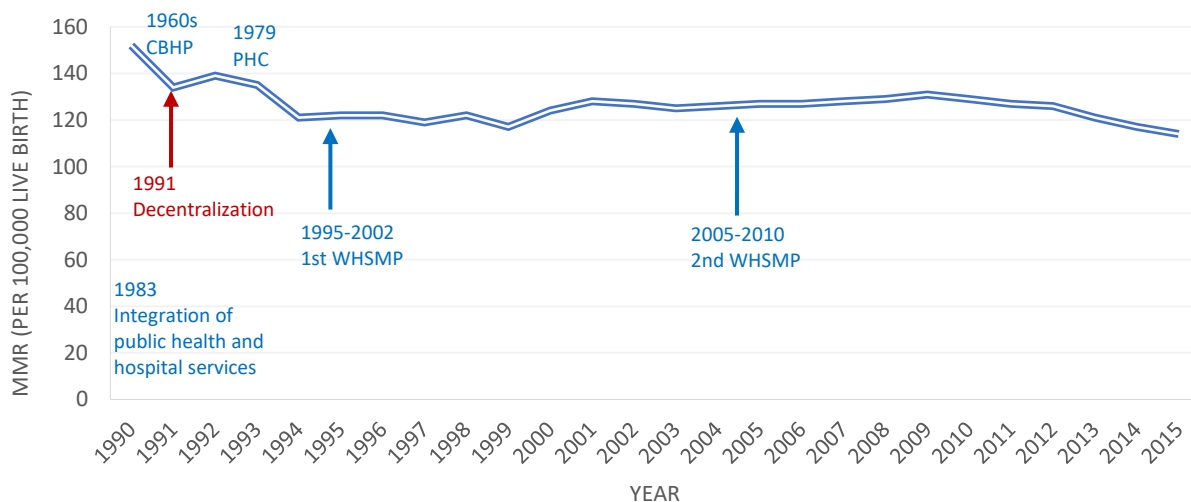
As shown in Figure 2, the healthcare system in both countries had been developed long before the implementation of decentralization in the 1990s. Indonesia and the Philippines had developed their healthcare system, including in their local areas, long before the implementation of decentralization. In Indonesia, a system of community health centers (*Puskesmas*) was established in 1968 and full coverage was achieved 20 years later in 1988 (Aspinall, 2014). With the effect of the oil boom in the 1970s, especially during the 1970s-1980s, the government began to establish district hospitals and sub-district health centers all over the country (Suryanto, Plummer, & Boyle, 2017).



Notes: CHC (Community Health Center), SM (Safe Motherhood), GSI (The Movement to Cherish Mothers), MPS (Make Pregnancy Safe), MNH (Maternal and Neonatal Health), CEmoNC (Comprehensive Emergency Obstetric and Newborn Care), BEmONC (Basic Emergency Obstetric and Newborn Care).

Figure 2. MMR and Healthcare System Development in Indonesia 1990-2015
(Source: Compiled from various sources. MMR data from the World Development Indicators, the World Bank, 2017.)

As shown in Figure 3, in the Philippines, Rural Health Units (RHU) were established in every municipality from the 1950s, followed by the establishment of Barangay Health Stations (BHS) as the first line of health care at the village level. Additionally, from the early 1970s, the Philippines developed Community-based Health programs (CBHP) that consider health as an overall village development platform (Gonzales, 1996). Driven by the increase in health problems in the 1960s and 1970s, the government began to implement a Primary Health Care approach throughout the country in 1979 and integrated public health and hospital services in 1983 (Atienza, 2004). However, due to centralization policy, huge flows of internal migration to urban areas and wealthy regions, limited incentives to work in rural and remote areas, health infrastructure and personnel remain unequally distributed (Lieberman, 2002).



Notes: CBHP (Community-Based Health Program), PHC (Primary Health Care), WHSMP (Women's Health and Safe Motherhood Project).

Figure 3. MMR and Healthcare System Development in the Philippines 1990-2015 (Source: Compiled from various sources. MMR data from the World Development Indicators, the World Bank, 2017.)

Long before the decentralization policy was implemented, both countries had relied on primary health care at the village level such as Puskesmas in Indonesia and the Barangay Health Stations (BHS) in the Philippines. Nevertheless, despite the improvement in primary healthcare and some health indicators like life expectancy and family planning, the standard of care provided in Puskesmas in Indonesia and BHS in the Philippines was often poor. Public health utilization was low and only common among the poor, while the affluent preferred to choose private doctors and hospitals (Aspinall, 2014; Atienza, 2004; Grundy, 2001). Indonesia and the Philippines still face the issue of low-quality standards in their public healthcare.

Health Financing System and MMR Reduction

The use of social health insurance is one strategy used to reduce the rate of maternal mortality as it can help women to improve their maternal health which in turn can reduce maternal mortality. However, health financing in the two countries under study was still mainly based on out-of-pocket payments. Data from the WHO reveal that in the Philippines and Indonesia out-of-pocket payments accounted for more than 40% of total health expenditure between 1995 and 2015. However, out-of-pocket expenditure in Indonesia is relatively smaller compared to that of the Philippines (see Figure 4). As happened elsewhere, increases in out-of-pocket payments usually occur when market- or profit-oriented health services proliferate, under which conditions private health providers are likely to flourish (Adams, 2005). The high share of out-of-pocket spending has contributed to health inequalities among the disadvantaged and marginalized groups in these countries.

Social health insurance has long been established in Indonesia to deal with this problem. However, it has been limited to public servants, the military, police officers, and the

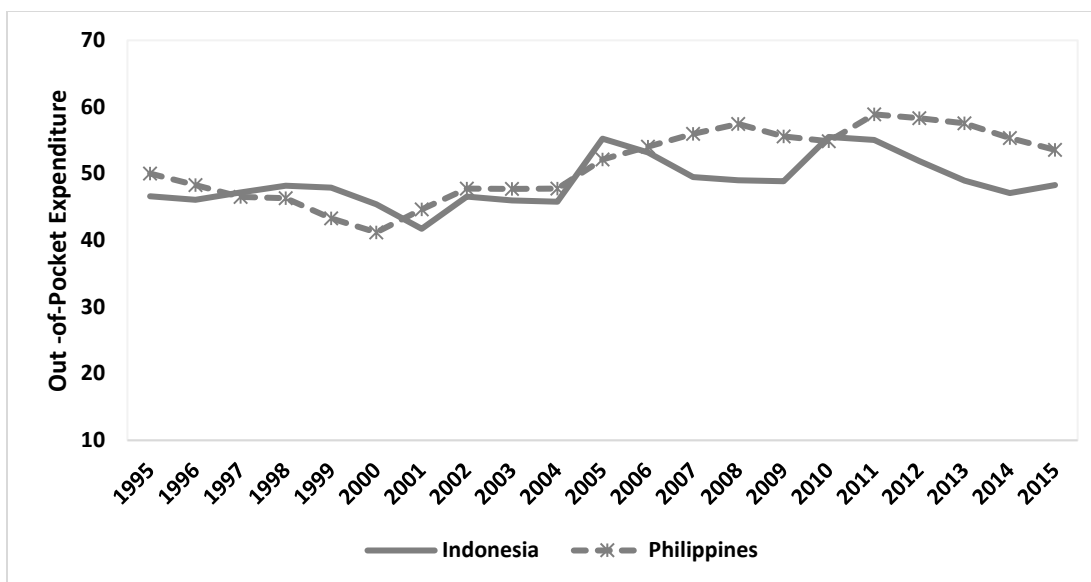
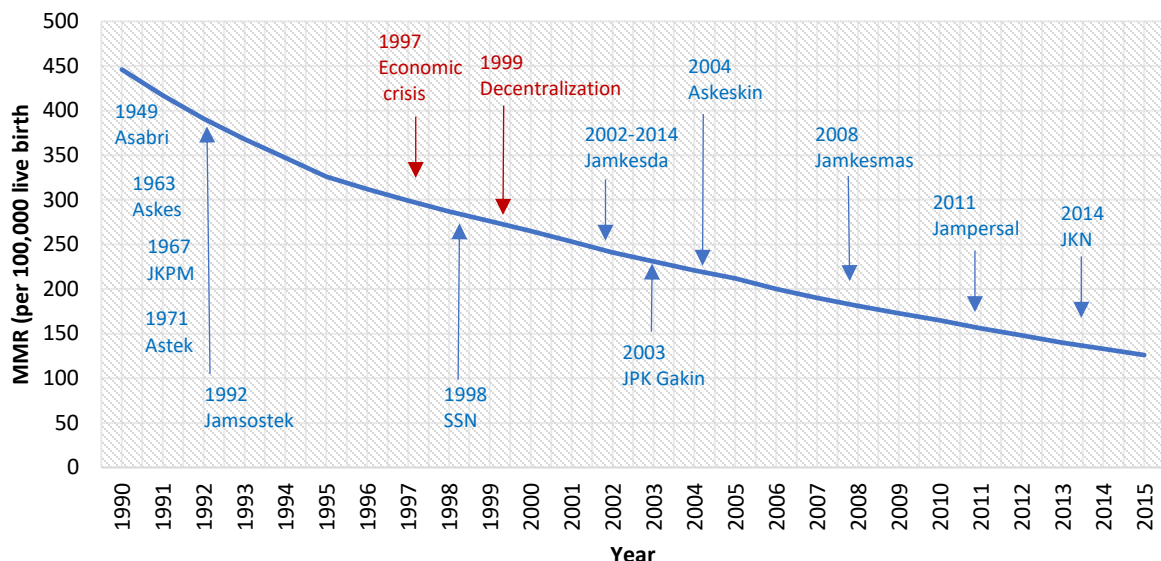


Figure 4. Out-of-Pocket Expenditure as a Percentage of Total Expenditure on Health 1995-2015 (Source: World Health Organization, 2015)

private sector. The Indonesian government began to provide health care programs for the poor called the Health Card Program in 1998 as a social safety net program in the aftermath of the Asian Financial Crisis. This program was modified over time to become *JPK Gakin* (Health Service Insurance for Poor Families) in 2003, *Askeskin* (Asuransi Kesehatan Keluarga Miskin/Health Insurance for Poor Families) in 2005, and *Jamkesmas* (*Jaminan Kesehatan Masyarakat*/Public Health Insurance) in 2008 to expand program coverage not only to include the poor but also the near poor (Adashi et al., 2013; Hartwig et al., 2017). All these schemes are national government programs and implementation deconcentrated to regional authorities (see Figure 5).

In the context of decentralization, realizing the limited coverage of *Jamkesmas*, some regional authorities initiated *Jamkesda* (*Jaminan Kesehatan Daerah*/Regional Health Insurance), which was targeted to those left out from the national scheme. Nevertheless, there have been variations in the nature of health service provision and coverage by *Jamkesda*



Notes: Asabri (Military Health Insurance /*Asuransi Angkatan Bersenjata Republic Indonesia*), Askes (Health Insurance, *Asuransi Kesehatan*) JKPM (Community Health Maintenance Organization/*Jaminan Pemeliharaan Kesehatan Masyarakat*), Astek (Social Labor Insurance/ *Asuransi Sosial Tenaga Kerja*), Jamsostek (Social Labor Insurance/ *Jaminan Sosial Tenaga Kerja*), SSN (Social Safety Net), *JPK Gakin* (Health Service Insurance for Poor Families), Askeskin (Social Health Insurance for the Poor/*Asuransi Kesehatan Penduduk Miskin*), Jamkesmas (Community Health Insurance/*Jaminan Kesehatan Masyarakat*), Jamkseda (Regional Health Insurance/ *Jaminan Kesehatan Daerah*), Jampersal (Universal Delivery Care/ *Jaminan Persalinan*), JKN (National Health Insurance/*Jaminan Kesehatan Nasional*).

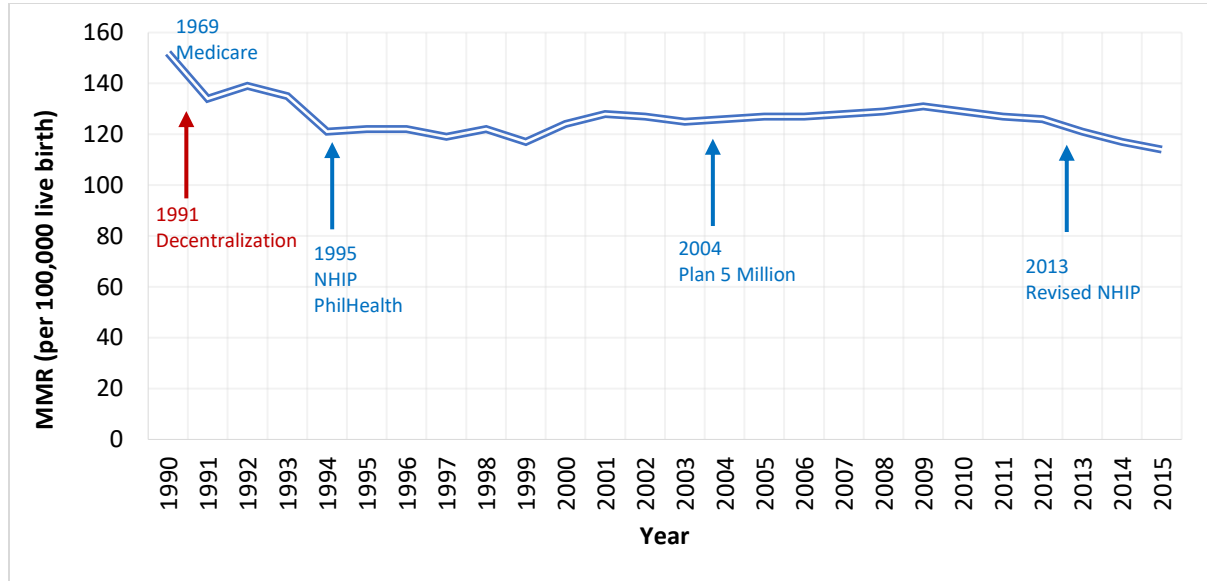
Figure 5. MMR and Health Financing Development in Indonesia 1990-2015

(Source: Compiled from various sources. MMR data from the World Development Indicators, the World Bank, 2017)

across regions. Some districts covered prenatal and maternity care services while others went further to also cover delivery services (Hartwig et al., 2017). The limited capacity and resources in smaller and poorer regions were the main constraint of the program's implementation. In a study on the impact of *Jamkesda* on maternal health care, Hartwig et al. (2017) found that prenatal care visits increased only in Java and Bali, which are densely populated and relatively prosperous compared to other regions in Indonesia. Political factors also played an important role in encouraging local authorities to run *Jamkesda*. With the commencement of direct regional elections from 2005, many local politicians used free health care as one of their main campaign promises (Aspinall, 2014). Therefore, it is not

surprising that there was an increase in the number of districts that implemented *Jamkesda*.

Similarly, the Philippines developed Medicare (Medical Care Plan) in 1969 (see Figure 6). The plan was comprised of two programs that targeted formal workers in the first phase and informal employment as well as the poor in the second phase. However, this scheme failed to extend its coverage to the poor (Obermann et al., 2006).



Notes: NHIP (National Health Insurance Program).

Figure 6. MMR and Health Financing Development in the Philippines 1990-2015
(Source: Compiled from various sources: MMR data from the World Development Indicators, the World Bank, 2017)

In the Philippines context, due to the “Big Bang” approach, devolution policy did not address the issue of national health insurance for the poor. In 1995, the Philippines government issued the National Health Insurance Act. In the following year, the government established the Philippines Health Insurance Corporation (PHIC or PhilHealth) and launched the National Health Insurance Program (NHIP) to replace and improve the old Medicare program introduced in 1969. PhilHealth also operated in local government units which used Medicare para sa Masa (MpM) as their partner to provide health insurance for the poor with

subsidy sharing provided by the local and national government (Lieberman, 2002). The NHIP was expected to achieve universal coverage by 2010. However, since it was not compulsory, the coverage was below 50% of the population (Fernandez, Brillantes Jr, & Modino, 2014). In 2004, President Macapagal-Arroyo introduced the “Plan of 5 Million” as part of a political campaign to increase the membership of PhilHealth by 5 million, and in 2013 the Philippines revised the National Health Insurance Act to improve the quality standards (Obermann, Jowett, & Kwon, 2018).

In contrast, Indonesia in 2014 implemented JKN (*Jaminan Kesehatan Nasional/National Health Insurance*) under BPJS (*Badan Penyelenggara Jaminan Sosial/Social Security Administrative Body*) to universally cover the population, replacing *Jamkesmas* and *Jampersal*. The implementation of universal health reform in the country was late coming given the fact that the bill on health insurance reform was enacted in 2004. Similarly, the Philippines’ PhilHealth also led to universal health coverage. In 2017, the Universal Health Coverage bill 5784 was passed by the House of Representatives in the Philippines which provides the political foundation for achieving UHC (Obermann et al., 2018). However, some challenges such as expanding coverage to the poor and those in the informal sector, as well as the quality of health care services, still need further attention from the central government for the program to succeed (Tangcharoensathien et al., 2011). In 2014, Indonesia and the Philippines covered 46.54% and 85% of the total population respectively (Agustina et al., 2019; Bredenkamp & Buisman, 2015). Although total coverage in the Philippines is higher than that of Indonesia, the coverage for subsidized groups are higher in Indonesia than that of in Philippines. Out of the total insurance coverage in 2014, 68.76% in Indonesia and 58.81% in the Philippines were subsidized groups respectively

(Agustina et al., 2019; Bredenkamp & Buisman, 2015). The coverage of subsidized groups in Indonesia has increased significantly since the launch of many national and local social health insurance schemes since early 2000s (see Figure 5). After the implementation of UHC in 2014 until October 2018, the coverage of subsidized groups are always above 60 % out of the overall insurance coverage (Agustina et al., 2019).

In summary, while both countries have developed social health insurance schemes leading to UHC, a combination of central government and local government health insurance schemes in Indonesia has lowered its out-of-pocket health spending than that of the Philippines (see Figure 4).

Variations in the Level of Decentralization and Maternal Mortality Reduction

While Indonesia and the Philippines shared similar conditions in terms of approach, types, and forms of decentralization as explained in the previous sections, both countries vary in the level of decentralization and its implementation. Data of the regional authority index reveal that Indonesia has higher level of decentralization than that of the Philippines both in the first 5 years and the next 6 years after the implementation of decentralization in the countries. The differences in the level of decentralization are particularly important to understand the variations of the authority and quality of local governments in the decentralized system and its impact on the reduction of MMR in both countries.

Table 4 provides the average scores of each indicator measuring the regional authority index categorized in two phases after decentralization. In terms of institutional depth, local governments in Indonesia were likely to have higher autonomy (3.31) compared to that of in Philippines (2.07) and the local government authority in Indonesia increased in

Table 4. Regional Authority Index in Indonesia and the Philippines by Indicator

Indicator	5 Years After Decentralization (Phase I)		6 Years After Phase I (Phase II)	
	Average 1999-2004 Indonesia	Average 1991-1996 Philippines	Average 2005-2010 Indonesia	Average 1997-2002 Philippines
Institutional Depth	3.31	2.07	3.97	2.07
Policy Scope	1.64	1.90	3.97	2.07
Fiscal Autonomy	1.31	1.04	1.96	1.04
Borrowing Autonomy	0.33	2.07	1.96	2.07
Representation	7.84	4.14	7.84	4.14
Self-Rule	14.42	11.22	19.70	11.39
Law Making	0.17	0	1.00	0
Executive Control	0	0	0.01	0
Fiscal Control	0	0	0	0
Borrowing Control	0	0	0	0
Constitutional Change	0.04	0.11	0.06	0.11
Shared-Rule	0.21	0.11	1.07	0.11
RAI	14.62	11.33	20.77	11.49

the second phase of decentralization (3.97) while it remained the same for the Philippines (2.07). However, with limited autonomy, the local governments in the Philippines were responsible for more policies implementation (1.90) compared to Indonesia (1.64) particularly in the first phase of decentralization. It implies that the central government in Indonesia still has a significant role in the highly decentralized system. Decentralization is expected to encourage more local participation in policy design, implementation, monitoring, and evaluation. However, when local government autonomy and capacity are still limited, and disparities between local governments are significant, decentralization may lead to more complicated problems. Additionally, without significant role of central government to monitor local governments and their performance in providing public health services, decentralization worsens the public healthcare services at the local level. Adashi (2013), for instance, found that regional health inequalities were exacerbated by decentralization since

many local governments were not prepared to rule their own health services. In the context of maternal health, safe motherhood services in the Philippines were badly affected by decentralization, and some local governments did not implement family planning services even though it was a national priority as the national government was unable to influence local decision-making (Lakshminarayanan, 2003).

The data of RAI also show that while the local government in Indonesia had a higher level of fiscal autonomy and low level of borrowing autonomy, local governments in the Philippines were in the opposite direction. This implies that local governments in Indonesia were encouraged to increase their fiscal capacity and reduce their dependency on national government financial support. Similarly, in terms of representation, local governments in Indonesia also had a higher level of independence in legislative and executive compared to that of the Philippines. The implementation of direct regional elections plays an important role in improving representation and independence of local parliaments and local appointed leaders.

In terms of lawmaking, local governments in Indonesia had more opportunities to formulate their own regulations as the basis for their policies' implementation compared to that of the Philippines. After decentralization, for instance, many local governments in Indonesia had issued local regulations (PERDA/*Peraturan Daerah*) on regional health insurance (*Jamkesda*) as local initiatives to support national health insurance schemes. Realizing the limited coverage of *Jamkesmas*, some regional authorities initiated *Jamkesda* (*Jaminan Kesehatan Daerah*/Regional Health Insurance), which was targeted to those left out from the national scheme (Hartwig et al., 2017). In relation to representation, political factors also played an important role in encouraging local authorities to run *Jamkesda*. With

the commencement of direct regional elections from 2005, many local politicians used free health care as one of their main campaign promises (Aspinall, 2014). Therefore, it is not surprising that there was an increase in the number of districts that provided *Jamkesda* after 2005. Although the effects varied across districts, at least there are two main contributions of the implementation of national as well as local health insurance schemes. First, they have contributed to the decrease in out-of-pocket expenditures in Indonesia especially from 2005-2008 when national insurance schemes and many *Jamkesda* were implemented (See Figure 4). Second, it helps to improve the coverage of maternal health services. Calculated data from World Development Indicators show that from 1999–2015, the average proportion of women received prenatal care and the proportion of births assisted by skilled health personnel in Indonesia were 92.58% and 72.97%, respectively. In contrast, after 17 years of decentralization implementation, the average proportion for those in the Philippines was 85.64% and 54.62%, respectively.

In relation to maternal health, the law-making authority in Indonesia has also encouraged local governments to issue local government regulations (PERDA) on maternal, newborn and child health care (*Kibbla/Kesehatan Ibu, Bayi Baru Lahir, Bayi dan Anak Balita*) that addresses the policies and its implementation procedures for maternal and child mortality reduction. There are at least 27 local governments (5.25% of total local governments) that formulated specific PERDA to seriously address the issue of maternal mortality in their localities.

The absence of local governments' authority in lawmaking in the Philippines, on the other hand, has hindered local initiative to produce their own policies. In the context of social health insurance, for example, the PhilHealth program is a national program and there was no

local health insurance initiated. As part of the National Health Insurance Program (NHIP), the national government in the Philippines launched the sponsored health insurance program for the poor in 1996. In this program, local governments were expected to identify those who were eligible for the program and pay the premium. However, since it was funded using non-regular funds mainly from charity, the program did not work well (Obermann et al., 2018). Although the 2013 revised National Health Insurance Act (Republic Act/ RA 10606) has highlighted the role of local governments as SPHEAR (Sponsor Payer, Health Care Provide, Employer, Advocate, Regulator), the national government in 2013 had to allocate full subsidies to cover the poor in the PhilHealth (Fernandez et al., 2014; Obermann et al., 2018). Since the devolution of health services, the Department of Health (DOH) in the Philippines as the representation of national government has had a complex relationship with local governments. Although the DOH has provided many technical supports needed by local governments, they have limited intervention on the local service delivery (Obermann et al., 2018).

In relation to maternal health, maternal mortality reduction policies in the Philippines mostly issued by central government. In 2008, for instance, the DOH issued Administrative Order (AO) No. 2008-0029 on “Implementing Health Reforms for Rapid Reduction of Maternal Mortality” and the DOH considers local government units in the maternal mortality reduction programs as local partners who are responsible for health care delivery in their localities (DOH, 2011). The 1991 LGC also mandates the responsibility of DOH to formulate policies, standards and regulation as well as provide care in tertiary and special hospitals, whereas local governments are responsible for implementation of primary and secondary health services (Tulali, 2010).

State Capacity and the Promise of Decentralization

Supporters of decentralization often endorse the promise that decentralization will bring better policies, better outcomes and reduced inequality (Canaleta, Arzoz, & Garate, 2004; Ezcurra & Pascual, 2008). However, some studies have shown mixed findings on service delivery and development progress (Malesky & Hutchinson, 2016). These findings have confirmed that decentralization is not an instant formula that automatically meets its promise. In this study, I argued that the success of decentralization in reducing maternal mortality is dependent on the level of state capacity.

Compared to other Southeast Asian countries, Indonesia and the Philippines are considered as successful democracies. The polity data which measures democracy score ranges from -10 to +10 (Gurr & Marshall, 2017), for instance, show that Indonesia and Philippines had higher democracy levels than that of other neighboring countries. The data also show that both had a score above 8 among other 51 countries scored above 8. Both have successfully conducted a number of national and local elections including direct presidential and local elections. However, rather than considered as mature democracy, both are often categorized as minimalist procedural democracies due to the dominance of political patronage and oligarchs (Heydarian, 2014; Loh, 2008). Despite the countries' economic growth averaging 5.04% and 4.99% for Indonesia and Philippines respectively after the Asian economic crisis (1999-2015)⁴, both countries are still struggling with the legacy of their authoritarian regimes – Suharto in Indonesia and Marcos in the Philippines who distorted state institutions as patrimonial structure (Kuhonta, 2011). These regimes have left

⁴ Author's calculation based on World Development Indicators Data, World Bank.

both countries with weak institutions that suffer from low quality of bureaucracy and corruption (Case, 2009).

Indonesia and the Philippines are classified as countries that had low levels of administrative state capacity but high fiscal capacity (Larsson, 2013). Using ICRG data on bureaucratic quality and the level of corruption to measure state capacity, this study also revealed that Indonesia and Philippines are sharing similar levels of state capacity compared to other Southeast Asian countries. However, if one takes a closer look at the early years of the implementation of decentralization policies in the two countries, the evidence suggests that Indonesia's state capacity was slightly higher than that of the Philippines. During the first five years of decentralization, the averages of bureaucratic quality in Indonesia was 2.36 compared to 0.87 in the Philippines; and the level of corruption in Indonesia was 2.13 while the Philippines was 2.48 (see Table 1).

This significant difference in the level of state capacity, particularly in the early implementation of decentralization, has contributed to a significant difference in the reduction of maternal mortality in both countries. During the first five years of decentralization, Indonesia successfully reduced its maternal mortality by 19.93% while the Philippines was only able to reduce by 8.96%. The reduction was also in line with the increase in maternal health care and services. During the first five years of decentralization, the average proportions of pregnant women received prenatal care and skilled birth attendance were 89.9% and 68.26% in Indonesia, and 83.1% and 52.8% in the Philippines respectively. Similarly, after 17 years of decentralization, maternal mortality rates have reduced by 56.10% and 15.79% in Indonesia and the Philippines respectively⁵.

⁵ Author's calculation based on the data of World Development Indicators, World Bank.

Furthermore, after 17 years of decentralization, Indonesia has enjoyed better socioeconomic developments than those of in the Philippines. Although the total debt in Indonesia and the Philippines was the same averaging 7.86% and 7.85%, respectively, Indonesia has experienced better economic development and growth than that of the Philippines. The Indonesian economy was also less dependent on trade. Central government debt and income inequality in Indonesia were relatively lower than that of the Philippines (see Table 5). These findings indicate that Indonesia has stronger state institutions than that of the Philippines.

Table 5. Socioeconomic Conditions in Indonesia and the Philippines

Indicator	Indonesia (1999-2015) Average	Philippines (1991-2007) Average
GDP Growth	4.03	3.71
GDP PPP Constant 2011 International \$	7540.55	4259.17
GDP PPP Current International \$	7056.92	3356.35
Central Government Debt (% of GDP)	32.35	60.15
Total Debt in Service (% of GNI)	7.86	7.85
Trade (% of GDP)	57.64	88.52
Income Inequality (Gini Index)	0.35	0.47

Source: World Development Indicators, World Bank, 2019.

According to historical institutionalism, timing and sequence play an important role in shaping the outcomes of institutional reforms. Historical institutionalism also considers the early conditions might have a greater effect on the later historical outcomes (Pierson, 2004; Thelen, 2003). In the context of this study, the stronger state capacity in the early implementation of decentralization in Indonesia played an important role in the significant reduction of MMR in the early implementation of decentralization as well as in following years.

The different levels of state capacity in Indonesia and the Philippines, especially during the early years of decentralization, have affected the shape of decentralization policies

and how the policies were implemented. First, in terms of policies and implementation, although both Indonesia and the Philippines took the “Big Bang” approach to decentralization, the former’s stronger state institutions allowed Indonesia to make some modifications and revisions to the standards, procedures, and mechanism for the better improvement in the implementation of decentralization and its outcomes. Law No. 22/1999 on regional government and Law No. 25/1999 on fiscal balance were the initial legal basis for implementation in Indonesia. To improve decentralization performance, these laws have been amended by the Laws No. 32/2004 and No. 33/2004, respectively. The amended laws were designed to improve accountability mechanisms and monitor the performance of local governments (Bennet, 2010). The amended laws also introduced a mechanism for direct elections of governors, mayors and district heads which aim to strengthen executive authority in respect to legislative authority (Ostwald, Tajima, & Samphantharak, 2016). Later, Law No. 32/2004 was amended by the Law No. 23/2014, which strengthened the role of the provincial governments, improved national standards, such as in labor and healthcare, and increased the central government’s authority to dismiss district leaders for a range of reasons. Rather than considering this new law as an attempt to power re-centralization, it is better to consider it as an effort to address the issue of ‘missing middle’ (the absence of provincial authority) (Ostwald et al., 2016). Thus, although Indonesia’s “Big Bang” approach to decentralization was incredible in its scale, it can be considered as “a portrait of fixing the machine as it was running” (Bennet, 2010, p. 10).

In contrast, the early decentralization era in the Philippines was signified with weak leadership. Due to their inclination to political clan, Corazon Aquino (1986-1992) and Joseph Estrada (1998-2001), for instance, were among the weakest presidents of the post-

authoritarian period (Abinales, 2008). Similarly, while President of Fidel V. Ramos (1992-1998), who was initially considered as a strong president tried to reform state bureaucracy, his reformist image later collapsed due to his inclination to political patronage (Abinales, 2008). Furthermore, while both Indonesia and Philippines shared the same political patronage as their previous authoritarian regime, state patronage has been more pervasive under President of Macapagal-Arroyo of the Philippines (Case, 2009; Hutchcroft, 2008). Due to limited state capacity, there has been no significant discussion on the revision of the 1991 Local Government Code (LGC) as the legal basis for decentralization in the Philippines. Therefore, the inefficiencies of decentralization established by LGC have remained the same as the efforts to revise LGC have not achieved any significant approval (Shair-Rosenfield, 2016)

Second, in terms of the effect of decentralization on health outcomes, while the stronger state has brought better health outcomes, weak state capacity in early implementation of decentralization has led to some negative outcomes. Some studies have indicated that health outcomes have worsened and health inequalities among districts have exacerbated after decentralization was implemented (Hodge, Firth, Jimenez-Soto, & Trisnantoro, 2015; Joshi, 2006; Shair-Rosenfield, 2016). In the context of the Philippines' health facilities, for instance, the number of RHU and BHS, which play an important role in providing health care at the municipality and Barangay levels, decreased significantly between 1996 and 2005 (DOH, 2005). Devolution of health care in the Philippines has also led to conflicting interdepartmental coordination and fragmentation of the hospital referral system (K Eaton, Kai, & Smoke, 2010; Lieberman et al., 2005).

In Indonesia, the political priority given to the safe motherhood program prior to decentralization significantly changed due to the shift of authority from the central to local governments. To some extent, the decentralization weakened authority of the Ministry of Health to regional governments in prioritizing maternal health (Shiffman, 2007). However, due to the importance of maternal and child health services, nearly all local health departments provide a unit for these services even though it is not mandatory (Adashi et al., 2013). Many efforts to reduce maternal mortality in Indonesia were also commenced in early implementation of decentralization such as Maternal and Newborn Health (MNH) program (1999-2004), Making Pregnancy Safer (MPS) program (2000-2010), expansion of antenatal care (2000-2006), and various “alert” (SIAGA/*Siap Antar Jaga*) programs involving community participation in monitoring pregnant women’s condition to prevent any possible pregnancy-related risks (1999-2010) (Hill, Goeman, Sofiarini, & Djara, 2014) (see Figure 2).

In contrast, the implementation of decentralization in the Philippines has weakened and shifted the political priority of maternal mortality reduction from the central to the local government which has worsened motherhood services in local areas (Lakshminarayanan, 2003). In the Philippines, there was a lack of commitment to reduce maternal mortality in the early implementation of decentralization as the Women’s Health and Safe Motherhood Project (WHSMP) was initially begun in 1995-2002 four years after decentralization, and the second WHSMP was started in 2005-2010. Therefore, during the first five years after decentralization the Philippines was only able to reduce its MMR by 8.69%, much lower than Indonesia (19.93%; see Table 1).

While the qualitative analysis has provided a causal mechanism to examine the impact of decentralization and state capacity on maternal mortality reduction, it is necessary to test this mechanism. The next section tested the theory developed in the qualitative analysis.

Decentralization, State Capacity, and Maternal Mortality in Southeast Asia

To test the generalizability of causal mechanism developed in the comparative analysis, a statistical analysis was run of Southeast Asian panel data (1990-2011). Table 6 presents the results of random effect models that predict the level of maternal mortality. Model 1 includes institutional and political variables. It shows that although the level of decentralization is negatively associated with maternal mortality, its effect was not statistically significant. In terms of state capacity, high level of bureaucratic quality was significantly linked to a low level of maternal mortality. For every one standard deviation increase in the level of bureaucratic quality, there would be a 0.08 standard deviation decrease in the maternal mortality rate. Similarly, the level of corruption in political institutions was positively related to maternal mortality (0.07).

In addition to institutional and political variables, Model 2 includes health-related variables as well as social, economic and demographic variables. Similar to the results in Model 1, decentralization was negatively linked to maternal mortality (-0.26), and its effect was statistically significant indicating that the higher levels of decentralization was associated with lower levels of maternal mortality. The findings also revealed significant and consistent effects of bureaucratic quality and corruption on maternal mortality. The magnitude of these effects is significantly higher than that of Model 1. By holding other

Table 6. Random Effect Model of Maternal Mortality, Panel Data Analysis from 1990–2011 (Standardized Coefficients)

Variables	(1) Model 1	(2) Model 2	(3) Model 3
Institutional and Political Variables			
Regional Authority Index (RAI)	-0.05 (0.04)	-0.26*** (0.06)	-0.34*** (0.05)
Democracy Level (Polity2)	0.01 (0.03)	-0.06 (0.05)	0.03 (0.05)
Corruption	0.07*** (0.02)	0.14* (0.06)	0.14** (0.05)
Bureaucratic Quality	-0.08*** (0.03)	-0.33*** (0.06)	-0.33*** (0.06)
RAI x Bureaucratic Quality			0.40*** (0.06)
Health Variables			
Skilled Birth Attendance		-0.21** (0.08)	-0.33*** (0.08)
Pregnant women receiving prenatal care		-0.13* (0.07)	-0.12** (0.06)
Government health expenditure		-0.38*** (0.05)	-0.29*** (0.05)
Socioeconomic and Demographic Variables			
GDP per capita, PPP		-0.09 (0.07)	0.06 (0.07)
Population Density		-0.18*** (0.06)	-0.02 (0.06)
Ethnic Fractionalization		0.22*** (0.05)	0.26*** (0.04)
Constant	-0.01 (0.22)	0.01 (0.04)	0.05 (0.04)
R^2 Within country between times	0.08	0.02	0.09
R^2 Between countries	0.27	0.92	0.95
R^2 Overall	0.13	0.69	0.74
Observations	219	219	219
Number of groups	10	10	10
Wald X^2	18.90***	465.85***	612.91***

Standard errors in parentheses: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

variables constant, bureaucratic quality was associated with a 0.33 standard deviation decrease in the countries' maternal mortality. In contrast, for every one standard deviation increase in corruption, one can expect a 0.14 standard deviation increase in the countries' maternal mortality rate.

To examine the relationship between decentralization and state capacity and its effect on maternal mortality, the interaction between regional authority index and bureaucratic quality was added in Model 3. Figure 7 illustrates the marginal effect of RAI on MMR by the level of bureaucratic quality. The effects of RAI on MMR vary across different levels of bureaucratic quality. When the levels of decentralization and bureaucratic quality are low (-1.1 and -2 standard deviations, respectively), the countries' maternal mortality was more likely to be high. With the same RAI level, a decrease in maternal mortality would likely happen when the level of bureaucratic quality increases and these effects are statistically

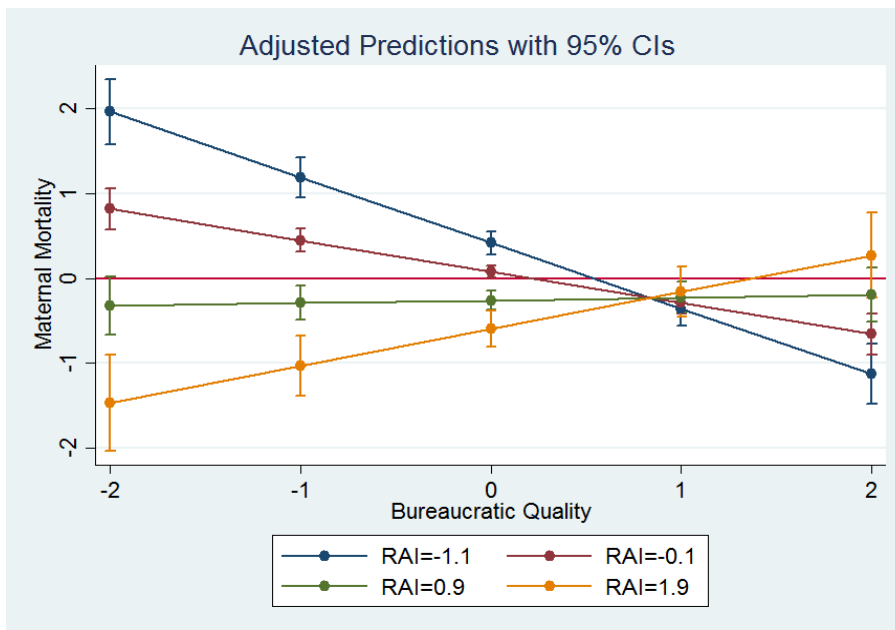


Figure 7. Marginal Effect of Regional Authority Index on Maternal Mortality by Level of Bureaucratic Quality

significant. The findings revealed that for every level of RAI, maternal mortality rates are likely to be low as long as the level of bureaucratic quality is high (at 1 standard deviation). The results also indicated an increase in maternal mortality when the level of RAI is high but the level of bureaucratic quality is low. This finding confirmed the expectation stating the importance of state capacity for the success of decentralization on producing better health outcomes.

In terms of health factors, the results in Model 2 and 3 indicate that first, an increase in health care and services, such as prenatal care and birth assisted by skilled health personnel, was associated with a low level of maternal mortality. Second, an increase in government health expenditure was significantly linked to a decrease in the countries' maternal mortality (-0.38 and -0.29 in Model 1 and 2, respectively).

A significant negative association of population density and maternal mortality can be identified in Model 2 (-0.18) indicating that countries with higher population density are more likely to have lower maternal mortality. However, the effect of population density was no longer significant in Model 3 when the interaction between RAI and bureaucratic quality was added.

Finally, in term of ethnic diversity, the results in Model 2 and 3 revealed a positive significant relationship between ethnic fractionalization and maternal mortality. This finding indicates that highly ethnic fractionalized countries in Southeast Asia are likely to have higher maternal mortality. To check the consistency of this result, another model was also run using a variable of ethnic tension from ICRG. Similar to the findings in these models, countries with high ethnic tensions were likely to be associated with higher maternal mortality.

In summary, this quantitative analysis confirmed the causal mechanism developed in the previous section's comparative analysis. Variations in state capacity are responsible for significant differences in the levels of institutional reform success like decentralization and development outcomes like maternal mortality.

Conclusion

Efforts to reduce maternal mortality have benefited from a number of supporting factors including improvement of health infrastructure and progressive socioeconomic, political and institutional reforms. Some proponents of decentralization have suggested that decentralization can improve the quality of health service delivery which, in turn, can lower maternal mortality. Nevertheless, decentralization is not an instant formula to solve the problem of low quality of healthcare services. Both qualitative and quantitative analyses presented in this study indicated that the success of decentralization to bring better health outcomes in maternal mortality reduction is highly dependent on the countries' state capacity. The comparison between Indonesia and the Philippines demonstrated that state capacity, which had shaped the political dynamics of the implementation of decentralization in the two countries, has a significant impact on the reduction of maternal mortality. Due to its stronger state capacity, particularly prior to the launch of decentralization policy, Indonesia has seen a significant reduction in maternal mortality compared to that of the Philippines. The quantitative analysis conducted in this study further confirmed this finding that the effect of decentralization on maternal mortality reduction is dependent on the level of bureaucratic quality.

This study provides several contributions to the literature on the impacts of decentralization on public policies. The findings revealed the importance of both central state

capacity and local state capacity for the success of decentralization. The former is needed not only to facilitate policy coordination between the central and local governments but also to monitor and define the standards of public healthcare and services. Meanwhile, state capacity of local governments is necessary for the local administrations to address local problems and ensure that the designated policies are well implemented at the local level.

The findings of this study have also provided some important recommendations for policy. First, this study emphasized the importance of investing in the improvement of the quality of bureaucracy and its autonomy to formulate and implement policies without political interventions from elites. This is especially important in countries in which elite capture is very dominant as it will adversely affect the effectiveness of decentralization in bringing better health outcomes. Mitchell and Bossert (2010), for instance, argued that health decentralization cannot be a solution when governance issues such as corruption and elite capture exist.

Second, the findings also revealed the importance of social control mechanisms to ensure both central and local governments perform their tasks well. This is particularly important in the context of countries that are vulnerable to corruption and political patronage. Although elections can be used as a control mechanism, it is not enough to keep the government accountable due to the prevalence of vote buying as well as the persistence of the patronage system in politics. Therefore, it is necessary to develop a mechanism beyond elections. Besides elections, the voice of the public to control government can be channeled through other mechanisms, such as providing poor and marginalized groups a more direct voice in the policies that are formulated and implemented by local governments (Rosser & Wilson, 2012). This can be done in various forms such as via public hearings, legal

resources, monitoring by the media and civil society, as well as political pressure from various social movements.

Third, although the national trends of maternal mortality in the two countries have been declining over time, inequalities between sub-national levels in these countries are still prevalent. To address this disparity, the findings revealed the importance of implementing “proportionate universalism” policies, which are social policies that emphasize proportionate disadvantage (Thomsen et al. 2011, p. 176). Although Indonesia and the Philippines have implemented health finance schemes, they are still partially targeted and UHC is still in progress. Therefore, a number of poor and vulnerable groups in these countries are still suffering from health inequality. Enhancing state capacity would benefit the implementation of UHC in these countries.

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**CHAPTER 3. STATE CAPACITY AND PUBLIC PROVISION IN A SOCIALLY
FRAGMENTED NATION: A SUB-NATIONAL ANALYSIS OF MATERNAL
MORTALITY DISPARITIES IN INDONESIA**

A paper to be submitted to *World Development*

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Abstract

Many scholars have demonstrated that progress in social-economic development and health infrastructures were instrumental in reducing maternal mortality. However, the effects on maternal mortality ratio of state capacity and social fragmentation, which many consider as “causes of the cause” or “fundamental causes” of the changes in socio-economic and health factors, are still understudied. To fill in this gap in the literature, this study examined the extent to which state capacity, especially at the local level, and social fragmentation affect maternal mortality disparities across districts in Indonesia. By using district-level data and a separate analysis of old and new districts resulting from the territorial splits after decentralization, the author found that variations in local state capacity are responsible for the prevalence of inter-regional disparities in maternal mortality in the country, especially between old and new districts. The findings also indicated that local state formation did affect the development of state capacity at the sub-national level. Therefore, improvements in local state capacity, especially for new districts, will be necessary for the country to minimize the inter-regional gaps in health outcomes like maternal mortality.

Keywords: State Capacity; Social Fragmentation; Maternal Mortality; Decentralization; Indonesia

Highlights

- Maternal mortality has significantly declined globally but disparities persist among and within countries
- Local state capacity is the fundamental causes of the differences in maternal mortality ratio across districts in Indonesia.
- Decentralization has affected the development of local state capacity and disparities of MMR in sub-national levels of Indonesia.
- Local homogeneity within fractionalized districts as well as economic development has helped to reduce diversity penalty on maternal mortality.

Introduction

This study examined the extent to which local state capacity – which can be defined as the ability of local state institutions to make and enforce rules, to deliver services and implement policies or programs – affects maternal mortality disparities in a socially fragmented nation like Indonesia. While maternal mortality rate (MMR) has significantly decreased globally, disparities have persisted among and within countries, especially in the developing world (WHO, 2015). Many scholars have argued that the decline of maternal mortality is the result of improvement in health infrastructure, such as: (a) an increase in the number of physician, nurses and midwives per 1000 people; (b) health service delivery such as the access to skilled birth attendants, prenatal care (Alvarez, Gil, Hernandez, & Gil, 2009; Bishai et al., 2016; Przeworski, Alvarez, Cheibub, & Limongi, 2000; Shen & Williamson, 1999); and various social and gender equality factors such as the improved of education, women’s level of education and participation in parliament (Bishai et al., 2016; Shen & Williamson, 1999; Wickrama & Lorenz, 2002). However, the “causes of the cause” (Rose,

1992) or “fundamental causes” (Link & Phelan, 2010, p. 3) of the improvement in health and social-gender related factors which, in turn, affect maternal mortality disparities are still understudied.

To date, the majority of empirical studies on the fundamental causes of health inequality has focused on social and economic conditions such as income and social inequality. Few researchers have looked at the effect of the state on health outcomes such as maternal mortality. The dominance of Marxist and pluralist approaches, which view the state more as a predatory actor rather than a development agent (Kelly, 2008), have cultivated a bias against the role of the state in the provision of public health services. This study was conducted to fill this gap by assessing the impact of state capacity on MMR disparities from a state-centered perspective. However, unlike most studies on state capacity, which generally focus on the national level or central government capacity, this study examined local government as the unit of analysis. A focus on central government may lead to a “whole nation bias” (Snyder, 2001, p. 16). In fact, many important government functions, including the provision of health services, have been decentralized to local governments.

In addition to state capacity, this study also addressed social fragmentation, which also plays an important role in shaping developmental outcomes. Several studies have indicated that social fragmentation such as ethnic and religious fractionalization have contributed to determining the shape of various social, economic and political outcomes, ranging from the effectiveness of public service delivery and public good provision to the quality of government institutions and policies (Alesina & Ferrara, 2000; Banerjee & Somanathan, 2007; Chadha & Nandwani, 2018; Chakravarty & Fonseca, 2014; Cooray, 2014; McGuire, 2006; Miguela & Gugerty, 2005; Okediji, 2011).

With these aforementioned goals in mind, the selection of Indonesia as a case study is justified for the following reasons. First, the country is socially fragmented (Wee, 2002). Second, MMR in Indonesia remains high despite the country's economic development during the last few decades. Compared to other Southeast Asian countries, Indonesia has experienced a slow decline in MMR reduction (Acuin et al., 2011). In fact, some evidence shows maternal mortality in Indonesia has significantly increased during the few last years, especially soon after the implementation of the decentralization policy in the early 2000s. One important element of the rise of MMR in the country was the prevalence of disparities across districts. The variations of local governments' capacity to manage their own health issues have contributed to disparities in the quality of public health programs and services (Maharani & Tampubolon, 2014). This provides an interesting puzzle for a study of the relationship between state capacity, social fragmentation, and quality of public services. The MMR data from Indonesia have indicated that some districts have lower MMR than others. What factors explain this disparity?

To answer this question, this study examined the interconnection between state capacity and social fragmentation, and how it affects disparities in maternal mortality rates in sub-national levels of Indonesia. The findings will reveal how local state capacity and social fragmentation play an important role in shaping health inequality. More specifically, it can be argued that local state capacity and social fragmentation are "causes of the cause" of the changes in health, social and gender-related factors that affect the maternal mortality disparities within Indonesia.

This paper is organized as follows. The first section presents and discusses the theoretical framework on the influence of state capacity and social fragmentation on the

improvement of public services. The following section supports the case for Indonesia as an important site to examine the effect of state capacity and social fragmentation on MMR disparities in the study context section. The research methodology presents and discusses data and measurement techniques, and model identification and model fit. Then the findings are presented which explain the effect of state capacity and social fragmentation on the MMR disparities in Indonesian districts. Finally, the last section provides a discussion and conclusion.

State Capacity, Social Fragmentation, and Maternal Mortality Disparities

Despite the numerous works that have been written on maternal health, little is known about the role of the state in reducing maternal mortality. Most of the studies on this subject have placed more emphasis on the importance of countries' economic growth and dependency status on their different levels of maternal mortality (Moore, Teixeira, & Shiell, 2006; Shandra, Shandra, & London, 2010a; Shen & Williamson, 2001; Wickrama & Lorenz, 2002). Other studies have examined the cause of MMR in terms of health, social, gender equality, fertility, and infrastructure factors (Bishai et al., 2016; Shen & Williamson, 1997, 1999; Wickrama & Lorenz, 2002) as well as cases related climate (e.g. tropical) or location (e.g. land-locked) (Moore et al., 2006). Some scholars have looked at the role of non-state actors (INGOs) in reducing maternal mortality (Baqui et al., 2008; Mercer et al., 2006; Mercer, Khan, Daulatuzzaman, & Reid., 2004; Mercer et al., 2006; Ricca, Kureshy, LeBan, Prosnitz, & Ryan, 2014; Shandra et al., 2010a; Shandra, Shandra, & London, 2010b). Despite insightful findings, the role of the state on MMR disparities is still not well understood.

Existing works on maternal mortality has often associated the level of MMR with improvement in health, social and gender equality factors. Discussion about these factors has been dominated by a modernization perspective that purports economic development to be

the main determinant. Nevertheless, this perspective has overlooked the importance of state capacity as “causes of the cause” (Rose, 1992) or “fundamental causes” (Link & Phelan, 2010, p. 3) of the change in health and social-gender related factors which, in turn, have affected maternal mortality disparities.

Although the importance of state capacity on development has been well recognized by the term “no state, no development” (Bates, 2006), those who have studied the role of the state on development have focused on the relationship between state capacity and economic performance, which has been considered as the main indicator of development (Dincecco & Prado, 2012; Evans & Rauch, 1999; Knutsen, 2013). Other studies have looked at the role of state capacity on violent conflicts, civil war, terrorism, and peace agreements (Cardenas, Eslava, & Ramirez, 2016; DeRouen et al., 2010; Hendrix & Young, 2014; Sobek, 2010). However, there have been only few works assessing the impact of state capacity on the provision of public goods and services such as public health. Cingolani, Thomsson, and Crombrughe (2015), for instance, examined the effect of state capacity on the prevalence of child mortality and tuberculosis. However, they did not address the effect of state capacity on maternal mortality.

There are some reasons to support state capacity as instrumental in providing public health services, including in maternal health. Governments that have weak capacity are unlikely to optimally provide skilled health personnel and health care services for their citizens (Fraser, 2005). On the other hand, a well-organized public health system is considered as the reflection of a health-specific manifestation of state capacity (Briebe, 2018). Maternal mortality is also widely known as a key indicator of health and socioeconomic development. It not only reflects the whole national health system but also

numerous aspects of a country's structure, including intergovernmental cooperation and coordination, accountability, and disparities (Sajedinejad, Majdzadeh, Vedadhir, Tabatabaei, & Mohammad, 2015). Findings of a study by Orloff (1993) related to gender revealed that state capacity in providing social provision has affected women's material condition such as women's educational attainment, health, access to paid work, and treatment for paid and unpaid labor; and has shaped gender relations and political participation. Some researchers have even advocated that gender equality requires an effective state that is capable of intervening in society, thus protecting women from discrimination and violence, and promoting their wellbeing through policy and laws (Htun & Weldon, 2010). This researcher hypothesized that:

H.1. Local governments with high state capacity are likely to have low level of maternal mortality through the progress in health and social-gender factors.

Building on the literature on the political sociology of development, the current researcher further argues that variation in local state capacity explains variations in the quality of public health provision at the sub-national level. Ample evidence has suggested that state capacity varies not only between but also within countries. Findings by some researchers have indicated that historical state formation affects the level of state capacity (Bockstette, Chanda, & Putterman, 2002; Chanda & Putterman, 2005). The age of the state is likely to affect the level of state capacity. Post-colonial states, for instance, were often associated with low level of state capacity (Gennaioli & Rainer, 2007; Kingsbury, 2011). However, the literature on historical state formation has often focused on the national level of state yet has neglected the fact that state formation also varies at the sub-national level (Foa & Anemirovskaya, 2016). Political decentralization, for example, may affect the

development of state capacity at the sub-national level through the process of local government proliferation. In many developing countries, decentralization had often led to the proliferation of local governments (Grossman & Lewis, 2014) – the creation of new local government through the splitting of administrative jurisdiction units in a relatively short period (Grossman, Pierskalla, & Dean, 2017; Lewis, 2017). Consequently, local governments in these countries can be distinguished between old and new local governments.⁶ The former usually keeps the original capital and all pre-existing local government institutions but lose its territory and citizens. Meanwhile, new local governments obtain new capital and new local government apparatus. Some studies have indicated that the former are likely to have better capacity than the later (Billing, 2018; Lewis, 2014). In line with this development, this researcher hypothesized that:

H.2. The negative association of state capacity and MMR is likely to be higher in old than that of in new local governments.

Related to the development of state capacity and its consequential impact on public policy, many studies have revealed the negative effects of social fragmentation, especially ethnic and religious diversities, on economic outcomes, public goods provision, government activity and the quality of governmental institutions (Alesina & Ferrara, 2000; Banerjee & Somanathan, 2007; McGuire, 2006; Miguela & Gugerty, 2005). Several empirical works have pointed out that income and social inequality can impede the development of the public welfare system (Biggs, Basu, King, & Stuckler, 2010; Wilkinson & Pickett, 2006) as the state might be less likely to invest in public goods and redistributive policies that are

⁶ Local governments can be identified in different tiers of governments. In Indonesia, there are four tiers of local governments: province, districts, sub-districts, and villages. This study focused on districts within the local governments.

advantageous to the whole population. Additionally, socially fragmented countries, especially those that are ethnically diverse, are more likely to have lower educational outcomes, and reduced investment in education, health and infrastructure compared to less fragmented countries (Anderson, Mellor, & Milyo, 2008; Casey & Owen, 2014).

Similarly, in relation to health outcomes, a higher level of social fragmentation has been associated with lower population access to healthcare and reduced expansion of health system infrastructure, as well as a higher level of child and maternal mortality (Powell-Jackson, Basu, Balabanova, Mckee, & Stuckler, 2011), lower health expenditures (Bokhari, Gai, & Gottret, 2007). Similarly, Churchill, Ocloo, and Siawor-Robertson (2016) revealed that social fragmentation is detrimental to various health outcomes. It is also associated with lower life expectancy and immunization rate. It is also linked to higher mortality rate, the high prevalence of various health problems, lower prevalence of contraception use, higher fertility rate, and a lower provision of health infrastructure and workers.

A large body of scholarly works on the negative effect of social fragmentation on public goods provision has suggested that social fragmentation leads to sub-optimal outcomes through a number of different ways (causal mechanisms). First, social fragmentation may generate conflicting preferences, which adversely affect the development of consensus and cooperation among heterogonous groups (Alesina, Baqir, & Easterly, 1999; Anderson et al., 2008; Singh & vom Hau, 2015). Second, social fragmentation can lower generalized trust between different groups (Alesina & Zhuravskaya, 2011). Many studies from different countries have indicated a negative association between social fragmentation and trust. This finding has been reported in Australia (Leigh, 2006), The Netherlands (Bakker & Dekker, 2011), the United States of America (Alesina & Ferrara, 2002), Canada (Stolle,

Soroka, & Johnston, 2008), Indonesia (Mardivis, 2015), and India (Chakravarty & Fonseca, 2014). Many studies have also revealed a low level of trust can adversely affect quality of government institutions or state capacity (La Porta et al., 1999; Putnam, 1993). Third, social fragmentation may lead to social exclusion and discrimination of disadvantaged groups. Such an exclusionary practice will, in turn, lower capacity of the state to provide public goods and services (Moser, Leon, & Gwatkin, 2005; Singh & vom Hau, 2015).

The findings of these works have implied several key points: First, both state capacity and social fragmentation affect the provisions of public goods and services. While state capacity is positively associated with the provision of public goods/services, social fragmentation, on the contrary, has the opposite effect. Second, social fragmentation may affect level or quality of state capacity. The higher the degree of social fragmentation, the weaker the level of state capacity. Thus, social fragmentation will have an adverse effect on maternal mortality by negatively affecting state capacity, health and social-gender factors. This researcher hypothesized that:

H.3. Social fragmentation adversely affects MMR through its negative impacts on level of state capacity, health and social-gender factors.

Study Context

With a total population of approximately 260 million people (BPS, 2017), Indonesia is the largest country in Southeast Asia. Although Indonesia is comprised of approximately 17,500 islands, its largest islands comprise nearly three-fourths of Indonesia's land mass: Sumatera, Kalimantan, Papua, Sulawesi, and Java.

In terms of maternal mortality, despite the government of Indonesia's efforts to reduce maternal mortality during the past few decades, MMR in the country remains high.

Even though Indonesia's MMR had declined from 400 per 100,000 live births in the early 1990s to 126 per 100,000 live births in 2015 (Shiffman 2003, WHO, 2015), nevertheless, the country had failed to meet its MDGs target (102 per 100,000 live births). Maternal mortality in Indonesia remained higher than those of its neighboring countries such as Thailand, Malaysia, Vietnam, and Philippines, whose MMR was reported to be 21, 40, 54, and 114 per 100,000 live births, respectively (WHO, 2015).

Some evidence has indicated that the reduction of maternal mortality in Indonesia has been uneven across regions during the last two decades (ADB, 2010; Bappenas, 2007; Prakarsa, 2013). As indicated in Figure 1, while some districts in Indonesia had achieved low MMR in 2016, others still had high MMR. Without neglecting the fact that some districts in Java also have high level of MMR, there is high MMR concentrated in districts outside of Java, particularly in Eastern Indonesia.

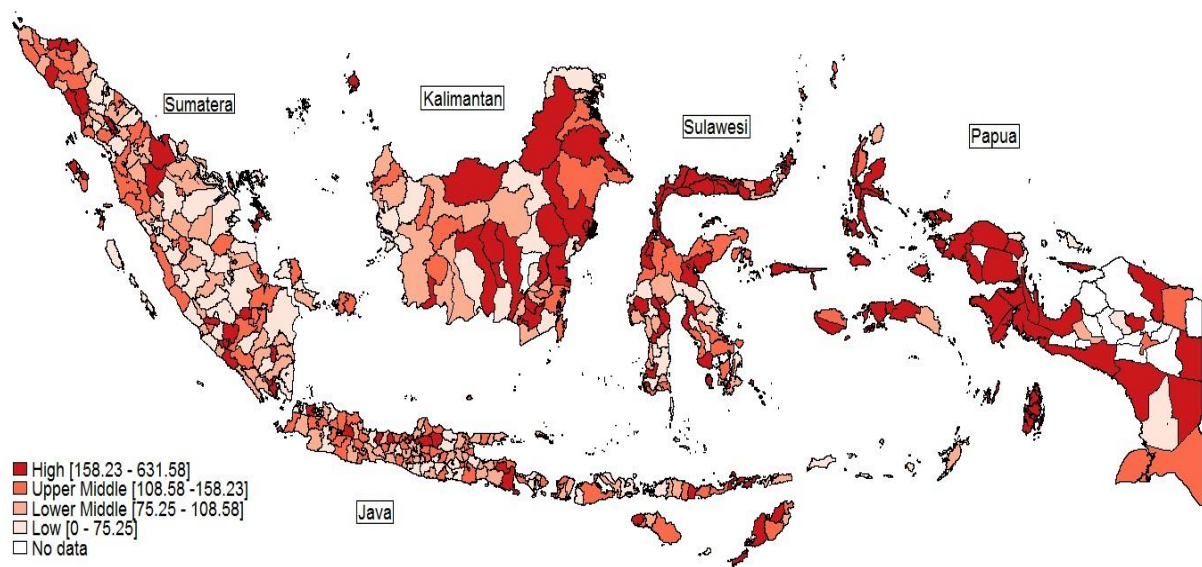


Figure 1. MMR Disparities in Indonesia by District, 2016 (MMR per 100,000 live birth). (Source: The Directorate General of Nutrition, Maternal and Child Health [Direktorat Jenderal Bina Gizi dan Kesehatan Ibu dan Anak] of the Indonesian Ministry of Health, 2016)

To explain these disparities, modernization theories usually points to differences in the level of economic development across regions as the major cause (Shen & Williamson, 1999). Yet, as previously indicated, Indonesia's MMR remains high even though the country's economic development has increased significantly during the last few decades (Patunru & Tarsidin, 2012). Drawing on the literature on state capacity, this author argues that variations in local state capacity explain variations in the quality of public health provision which, in turn, affects maternal mortality disparities at Indonesia's subnational levels.

Before gaining independence in 1949, Indonesia was colonized by the Dutch. Due to the long period of the Dutch occupation, Indonesia was formerly known as the Dutch East Indies (1600-1942) (Ricklefs, 1991). As a post-colonial state, Indonesia has often been categorized as a country with a low level of state capacity (Cingolani et al., 2015; ICRG, 2014). Some have argued that colonialism does not necessarily lead to a low level of state capacity. Nevertheless, Indonesia's level of state capacity cannot be detached from the country's long history of colonialism and post-colonial state formation during the eras of Sukarno – Indonesia's first presidents and Suharto, the Indonesia's second president who established a highly centralized structure of state (Vu, 2007; Williams, 2014).

Socio-economic and political changes such as democratic transition, communal and ethnic conflicts in Indonesia have also contributed to different processes of state formation among districts which, in turn, have led to variations in sub-national state capacity. Following the socio-economic and political crisis after the collapse of the Suharto era in 1998, Indonesia enacted the 1999 decentralization law as part of its socio-economic and political reforms. The 1999 Law has had a significant implication in the country's state

formation in which territorial splits (*pemekaran daerah*), known as local government proliferation, have significantly increased after its enactment. While the number of provinces rose from only 26 to 34, the number of districts increased from 290 before 1998 (Booth, 2011) to 514 in 2014. More importantly, decentralization has significantly affected policy implementations at the subnational level as many state functions, including the public provision of health services, have been decentralized to local governments.

In the context of MMR, after the implementation of the decentralization policies, local governments in Indonesia have been expected to provide a better decision-making process and improved policies to deal with local problems including maternal mortality. However, rather than significantly decreasing, MMR remains high with only slow improvement with various regional disparities. In relation to state capacity, data of bureaucratic quality as an indicator of state capacity have also indicated that the levels of state capacity in Indonesia declined after 2000 when decentralization was first implemented (ICRG, 2014).

Indonesia is ethnically and religiously a fractionalized country. It has more than 600 ethnic groups and, even though Islam is the majority, there are many other religions. Figure 3 illustrates that most districts are likely to have high ethnic fractionalization except for those on Java Island. Many territorial splits have occurred among districts with high ethnic heterogeneity. Thus, the territorial split has often been considered as the homogenization of ethnic groups (Arifin, Ananta, Utami, Handayani, & Pramono, 2015). Similar to ethnic fractionalization, Figure 4 shows that many districts in Indonesia are religiously diverse. Compared to districts on Java Island, those that are outside Java are likely to have higher religious fractionalization.

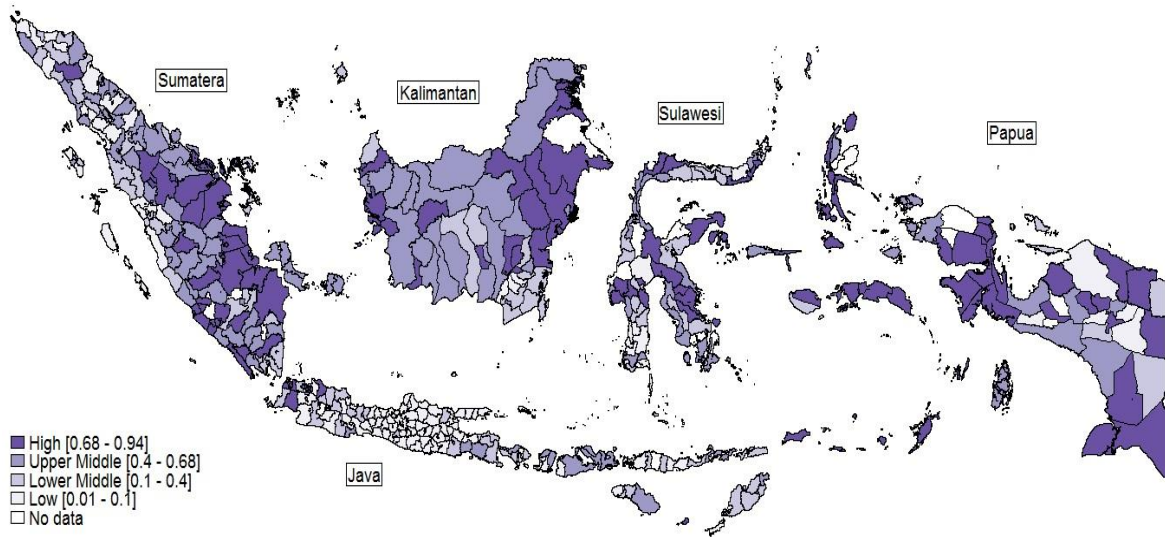


Figure 2. Indonesia Ethnic Fractionalization by District, 2010
(Source: Arifin, et.al., 2015)

Strong ethnic and religious identities in Indonesia remain prevalent today. During the Suharto regime, issues of ethnicity, race, and religion (often called Suku, Agama, Ras or abbreviated as SARA) were considered a political taboo. Thus, people found it difficult to express their religious and ethnic identities. This repressive condition has brought about latent ethnic and religious tension which escalated to violent conflicts when the Suharto regime was overthrown in 1998. The process of democratization and decentralization in Indonesia after 1998 has provided space for the revival of ethnic and religious identities. Therefore, in the context of political decentralization, ethnic and religious identities have become important political sources for local elites to be elected in local government positions which, in turn, might affect local state capacity as well as good public provisions.

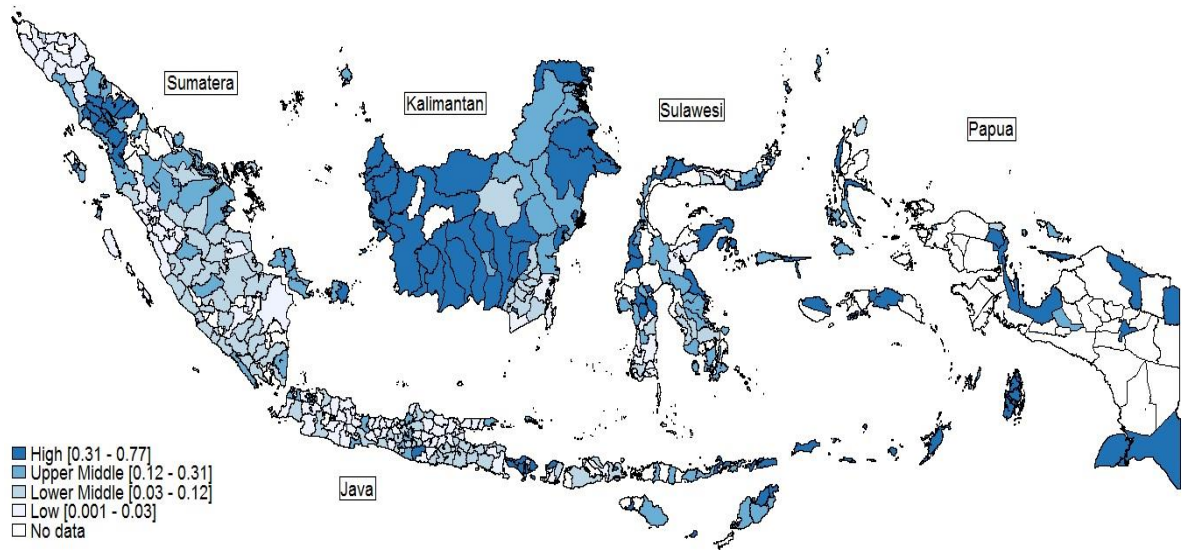


Figure 3. Indonesia Religious Fractionalization by District

Source: McCulloch, 2000 and Tajima, 2013.

Despite Indonesia's economic growth and reduction of poverty, income inequality in the country has grown faster compared to those of other Southeast Asian countries. Data from Indonesia's Bureau of Statistics have indicated income inequality in Indonesia has risen since the early 1990s (Gini index⁷=0.31) and has remained high until recent years (0.41 in 2015 and 0.39 in 2017). The inequality in urban areas was relatively higher (0.40 in 2017) than that of in rural areas (0.32 in 2017). Studies have documented the association of high-income inequality with worse health outcomes and public policies can help to overcome the negative effect of inequality (Krueger, Dovel, & Denney, 2015; Pickett & Wilkinson, 2015). In the context of Indonesia, for instance, the government has provided some social protection programs. However, the success of these social policies programs can differ across different districts.

⁷ A measure of income inequality which scores 0 for perfect equality and 1 for perfect inequality.

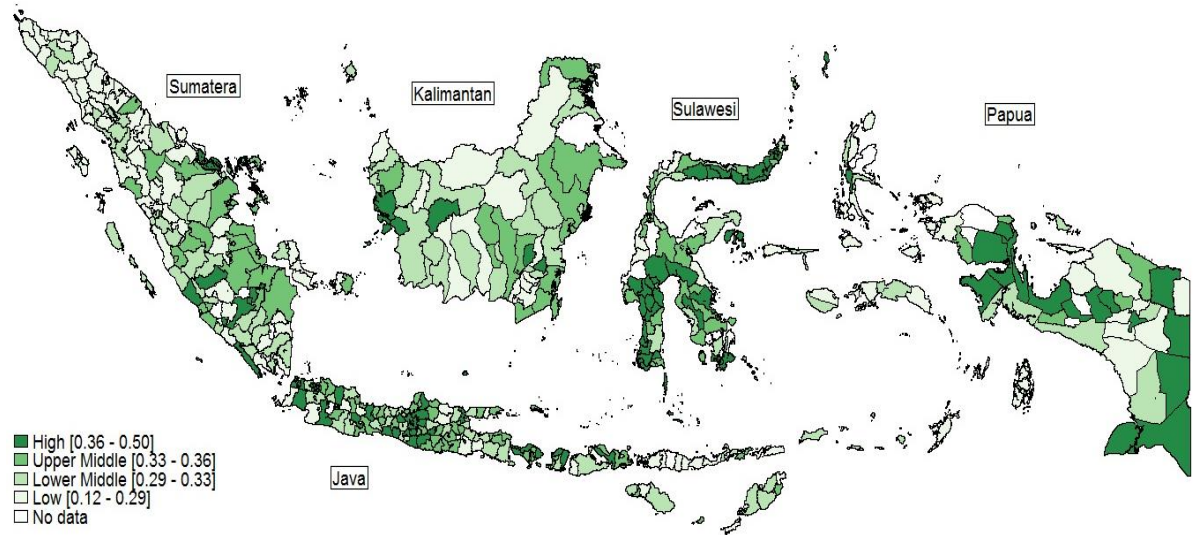


Figure 4. District Income Inequality in Indonesia, 2014.

(Source: Indonesia National Socioeconomic Survey [SUSENAS/Survey Sosial Ekonomi Nasional], 2014)

In sum, the high variation in subnational state capacity and social fragmentation has made Indonesia an important research site to examine the extent to which state capacity and social fragmentation influence public service outcomes, particularly in the context of maternal mortality disparities within subnational levels of a state.

Method

Data and Measurement

This study used secondary data from various sources. The dependent variable is the maternal mortality ratio (MMR). The ratio is defined in terms of the number of pregnancy-related deaths per 100,000 live births which include the death during pregnancy or within 42 days of termination of pregnancy (WHO, 2015). Data for Indonesia's MMR were taken from the maternal death surveillance and response (MDSR) database developed by the Directorate General of Nutrition, Maternal and Child Health (*Direktorat Jenderal Bina Gizi dan Kesehatan Ibu dan Anak*) of the Indonesian Ministry of Health.

The independent variables include state capacity, social fragmentation, health and social-gender factors, economic development, population, and a dummy variable of old and new districts. *State Capacity* is a multidimensional concept and is often used interchangeably with the terms “governance”, “state strength”, and “institutional quality”(Fukuyama, 2004). Yet, following previous scholars works on state formation and economic development, state capacity can be better defined as the ability of the state to penetrate society and implement their decisions and official goals (Mann, 1984; Migdal, 1988; Skocpol, 1985; Soifer, 2008; Soifer & vom Hau, 2008). By incorporating public service delivery, other scholars have defined state capacity as the ability of state institutions to make and enforce rules, to deliver services and implement policies or programs regardless of whether the state is democratic or not (Fukuyama, 2013; vom Hau, Sen, & Yanguas, 2013). In this study, state capacity is measured using an input-centered approach which places emphasis on specific institutional characteristics strengthening the ability of states to achieve their goals (Soifer & vom Hau, 2008). It includes administrative capacity, extractive capacity, and bureaucratic autonomy. However, due to data limitation in Indonesia, this study focused only on extractive capacity which uses local government revenue as a share of GRDP per capita (*PAD/Penghasilan Asli Daerah*). This includes non-tax local government revenue and local tax revenue as a share of GRDP per capita. Data for these different types of revenues were obtained from the Directorate General of Fiscal Balance, the Indonesian Ministry of Finance, 2014.

Social fragmentation can be defined as the lack of social connection between members of society, which leads to clustering of society based on the commonality of culture, nationality, race/ethnic, language, religion, income, and other common interests (Marx, 1994). Social fragmentation can be measured quantitatively using certain indexes that

capture the prevalence of fragmentation in the society. These indexes include ethnic and religious fractionalization and income inequality. Fractionalization is an aggregate measure of diversity based on ethnic, language or religion. It can be defined as the probability that two persons randomly selected from the entire population belong to different ethnic, language or religious groups (Fearon, 2003). To measure ethnic fragmentation in Indonesia, this study used the Ethnic Fractionalization Index developed by Arifin et al. (2015). The index was based on the results of the 2010 Indonesian census. To measure religious fractionalization, this researcher used the Religious Fractionalization Index developed by McCulloch (2002) and Tajima (2013).

As for the income inequality, this study used Gini coefficient, to show the gap between individuals' or households' income in a given district. Gini Coefficient was calculated from the 2014 Indonesia National Socioeconomic Survey (SUSENAS). The score for the indexes ranged from 0-1, with 0 representing the most homogenous and 1 indicating the most heterogeneous or fractionalized.

Health factor measures public health infrastructure and health care coverage. It consists of local government health expenditure as share of GRDP per capita (HE) and the factor of antenatal care and skilled attendant at birth (ANCSAB) resulting from factor analysis of the rate of Basic Emergency Obstetric and Newborn Care (BEmONC) at a local health facility (*Puskesmas* with PONED), health care coverage such as the proportion of births assisted by health professionals and at a health facility, the proportion of pregnant women who received antenatal care and the proportion of contraception prevalence. The data on health factors were derived from The Directorate General of Nutrition, Maternal and Child Health of the Indonesian Ministry of Health (2015).

Social-gender factors are comprised of two factors: social-gender development (SGD) and education and social protection expenditure (ESPE). These factors were derived from a factor analysis of these following variables: local government education and social protection spending per capita in million IDR, and the rate of gross secondary school enrollment; women's status and gender equality indicators such as the proportion of female *school* participation, female expenditure per capita, female life expectancy and the proportion of women in district parliament. Data for education and social protection spending were taken from the regional government expenditure database developed by the Directorate General of Fiscal Balance, the Indonesian Ministry of Finance (2015). Meanwhile, data for women status and gender equality were obtained from the Indonesia Database for Policy and Economic Research (*INDO-DAPOER*) developed by the World Bank, the Indonesia National Bureau of Statistics, and the Center of Political Studies, University of Indonesia.

Economic Development is used to assess economic modernization theory. This researcher used Gross Regional Domestic Product (GRDP) per capita (in million Indonesian Rupiah (IDR)) to measure economic development. Data for GRDP were also obtained from the Indonesian National Bureau of Statistics (2014). This study also included the total number of populations as well as dummy variables of new and old districts to analyze the MMR differences of districts under these categories.

Several variables such as health, social- gender development and social fragmentation are composite measures, which were developed using exploratory factor analysis (EFA). This researcher used the principal component extraction and varimax rotation with Kaiser Normalization that emphasize simplicity of factor interpretation and produced variance that was evenly spread out across factors. The descriptive statistics and factor loadings of these

variables, as well as other variables used in this study, are summarized in Appendix 1.1–1.4, respectively.

Statistical Analysis and Procedures

This study used a path analysis (PA) Model which is a special case of structural equation models/SEM (Tabachnick & Fidell, 2012). The study employed a recursive deviational path model with a correlated error. The equation of the model is:

$$\mathbf{y} = \mathbf{B}_y + \mathbf{\Gamma}_x + \boldsymbol{\zeta}$$

in which \mathbf{y} is the observed endogenous variable vector ($p \times 1$), \mathbf{x} is the observed exogenous variable vector ($q \times 1$), $\boldsymbol{\zeta}$ (zeta) is the residuals vector ($p \times 1$), \mathbf{B} (beta) is the regression matrix between endogenous-endogenous variables and $\mathbf{\Gamma}/\boldsymbol{\gamma}$ (gamma) is the regression matrix between exogenous and endogenous variables (see Figure 5).

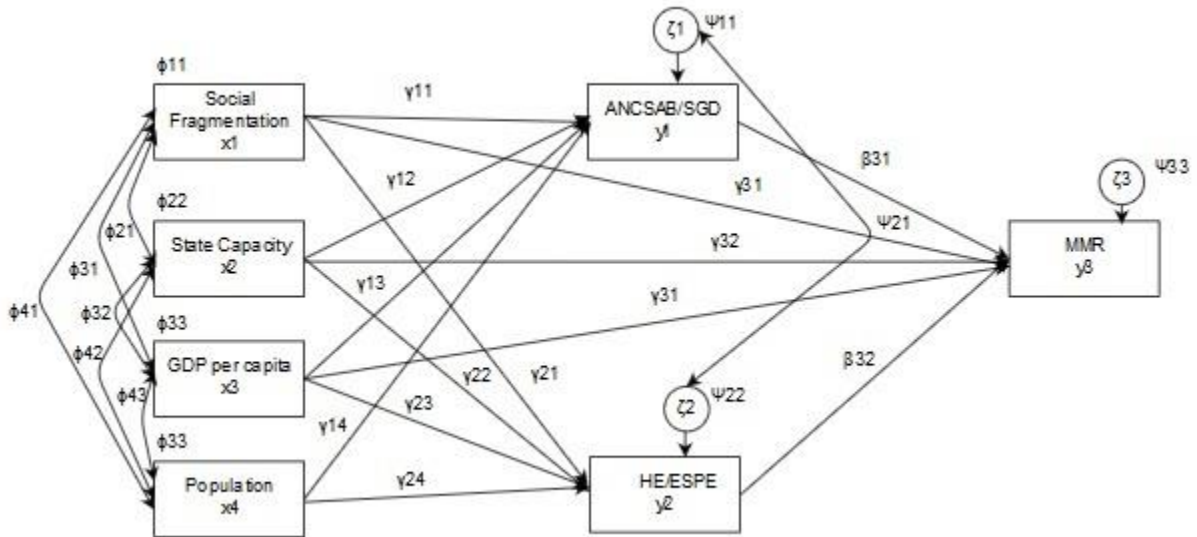


Figure 5. Path Diagrams of Recursive Deviation Model with Correlated Errors

Model Identification and Model Fit

The researcher used STATA software to run SEM estimating factors contributing to maternal mortality disparities in the sub-national level of Indonesia. The data in the analysis were missing at random; thus, to deal with the problem of missing data, a multiple imputations method was applied which has been well-accepted and increasingly used in dealing with missing data problems in many fields either for cross-section or time series data (Honaker & King, 2010). Using the same theoretical model (see Figure 6), several models were estimated predicting the associations of health, social, gender factors, and maternal mortality using data of all districts, running separate analyses for new and old districts to capture the impact of different historical state formation at a state's subnational levels.

In terms of model identification, the models meet both theoretical and empirical identifications. For empirical identification, the inverse information matrix (H^{-1}) reveals that all models are empirically identified as most of the correlations are relatively low (below 0.9) ranging from 0.00 to 0.75. For theoretical identification, it meets both necessary and sufficient identifications that can be identified from several rules of identification. First, based on the t-rule, the model is necessarily identified as known parameters are more than unknown parameters:

$$(\text{known} = 28 \left[\frac{1}{2} (7 \cdot (7 + 1)) \right] = \frac{1}{2} (56) = 28], \text{ and}$$

$$\text{unknown} = 26 \text{ where } B = 4, \Gamma = 9, \phi = 5 \text{ and } \psi = 8).$$

Additionally, the rank rule shows that the model is sufficiently identified as the rank of each equation in the model 1 is equal to the number of endogenous variables minus one ($p-1/3-1=2$).

Table 1 presents the fit statistics of all the models generated for this study. Model χ^2 of Model 3, and 6 have low values that are not significantly different from zero. This means that the models adequately fit the data. Although Model χ^2 of Model 1, 2, 4 and 5 indicate a poor fit, there is a huge reduction of χ^2 from the baseline χ^2 in all models. Similarly, Root Means Square Error of Approximation (RMSEA) for Model 3 and 6 are below 0.10 which indicate a good fit. Although RMSEA of Model 1, 2, 4 and 5 indicate a poor fit, the Comparative Fit Index (CFI) of all models are above 0.90 indicating a good model fit. Furthermore, in terms of pR^2 , high values of pR^2 of nearly all the equations indicate a good fit (see Table 2 and 3 for details).

Table 1. Path Fit Statistics (Health, Social-Gender Factors)

	Health Factors			Social-Gender Factors		
	Model 1 All	Model 2 New Districts	Model 3 Old Districts	Model 4 All	Model 5 New Districts	Model 6 Old Districts
Model χ^2	7.38**	6.09*	1.99	9.46**	15.74***	1.43
Baseline χ^2	950.03***	399.19***	453.64***	831.25***	312.97***	496.29***
$\Delta\chi^2$	942.65	393.1	451.65	821.79	297.23	494.86
RMSEA	0.11	0.15	0.05	0.13	0.27	0.04
CFI	0.99	0.99	0.99	0.99	0.95	0.99
TLI	0.90	0.80	0.97	0.85	0.26	0.99
N	510	209	301	510	209	301

Note: significant at *** $p < 0.0001$, ** $p < 0.01$ and * $p < 0.05$, respectively.

Findings

State Capacity, Social Fragmentation, Health Factors, and MMR

Table 2 presents the results of path analysis predicting the relationship between state capacity, social fragmentation, health factors, and MMR. The results show that, first, state capacity is associated with lower level of maternal mortality:

$$(\gamma_{total} = -0.12).$$

Table 2. Path Analysis of Health Factors and MMR in Indonesia

Variable		Model 1 All	Model 2 New Districts	Model 3 Old Districts
MMR (log)	← Antenatal and Skilled Attendants at Birth (ANCSAB)	-0.29***	-0.33***	-0.22***
	← Health Expenditure (HE)	-0.21***	0.44***	-0.04
	← State Capacity	0.01	0.23*	-0.10
	Indirect via ANCSAB	-0.10***	-0.13***	-0.04*
	Indirect via HE	-0.03**	-0.06**	-0.01
	Total Effect	0.12**	0.04	-0.15*
	← Social Fragmentation	-0.12*	0.05	-0.16*
	Indirect via ANCSAB	0.07***	0.07#	0.07**
	Indirect via HE	0.01	-0.04	0.01
	Total Effect	-0.04	0.08	-0.08
	← GRDP per Capita (log)	-0.15**	-0.22*	-0.19*
	Indirect via ANCSAB	-0.12***	-0.14***	-0.07***
	Indirect via HE	0.13***	0.35***	0.02
	Total Effect	-0.14***	-0.01	-0.24***
	← Population (log)			
	Indirect via ANCSAB	-0.12***	-0.14***	0.09***
	Indirect via HE	-0.12***	0.16***	0.02
	Total Effect	-0.24***	0.30***	-0.07
ANCSAB	← State Capacity	0.35***	0.40***	0.19***
	← Social Fragmentation	-0.25***	-0.20*	-0.30***
	← GRDP per Capita (log)	0.41***	0.42***	0.32***
	← Population (log)	0.41***	0.43***	0.40***
HE	← State Capacity	0.16***	0.14***	0.21***
	← Social Fragmentation	-0.04	0.09#	-0.10***
	← GRDP per Capita (log)	-0.60***	0.80***	-0.50***
	← Population (log)	0.58***	0.37***	0.59***
ANCSAB ↔ HE		-0.38***	-0.34***	-0.13#
Social Fragmentation ↔ State Capacity		-0.20**	-0.17	-0.14*
Social Fragmentation ↔ Population (log)		-0.34***	-0.07	-0.28***
Social Fragmentation ↔ GRDP per capita (log)		0.27***	0.16	0.38***
State Capacity ↔ GRDP per capita (log)		-0.26***	-0.12#	-0.51***
State Capacity ↔ Population (log)		-0.03	-0.03	-0.31***
GRDP per capita (log) ↔ Population (log)		0.03	0.05	0.02
pR^2 ... Antenatal Care and Skilled Attendants at Birth		0.51	0.53	0.30
pR^2 ... Health Expenditure		0.77	0.77	0.74
pR^2 ... MMR		0.12	0.16	0.10
pR^2 ... Overall		0.90	0.91	0.83

Note: Standardized coefficients, significant at # $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$._____

This total effect is mainly driven old districts:

($\gamma = 0.04$ for new districts and $\gamma = -0.15$ for old districts).

Second, the negative total effects of state capacity on MMR in the factor of antenatal care and skilled attendant at birth:

($\gamma_{12} = 0.35$ for Model 1; $\gamma_{12} = 0.40$ for Model 2; and $\gamma_{12} = 0.19$ for Model 3).

Similarly, there were direct positive links between state capacity and health expenditure in all types of districts:

$$(\gamma_{22} = 0.16 \text{ for Model 1; } \gamma_{22} = 0.14 \text{ for Model 2; and } \gamma_{22} = 0.21 \text{ for Model 3}).$$

These direct effects, in turn, contribute to the negative total effect of state capacity on the level of MMR.

Third, social fragmentation is not significantly linked to high maternal mortality. While social fragmentation were significantly related to low proportion of antenatal care and skilled attendants at birth,

($\gamma_{11} = -0.25$ for Model 1, $\gamma_{11} = -0.20$ for Model 2 and $\gamma_{11} = -0.30$ for Model 3), it does not apply for health expenditure. The significant negative association of social fragmentation and health expenditure can only be found in old districts:

$$(\gamma_{11} = -0.07, p < 0.01 \text{ for Model 3}).$$

Fourth, social fragmentation is associated with high MMR only in new districts, ($\gamma = 0.05$ for Model 2), but the association was not statistically significant. On the other hand, social fragmentation in old districts was significantly linked to low level of maternal mortality,

$$(\gamma = -0.16 \text{ for Model 1}).$$

Fifth, GRDP per capita as the indicator of economic development has negative significant association with MMR:

$$(\gamma_{total} = -0.14).$$

This significant total effect is particularly high among old districts:

$$(\gamma = -0.24 \text{ for Model 3}).$$

Sixth, high population is associated with the improved in the antenatal care and skilled attendant at birth as well as health expenditure in all types of districts. This, in turn, affects the total effect of population on maternal mortality. High population is related to lower level of maternal mortality:

$$(\gamma_{total} = -0.24).$$

This total effect is mainly higher in new districts than that of old districts:

$$(\gamma = -0.30 \text{ for new districts and } \gamma = -0.07 \text{ for old districts}).$$

State Capacity, Social Fragmentation and Social-Gender Factors, and MMR

Table 3 presents the results of path analysis predicting associations of state capacity, social fragmentation, social-gender factors, and MMR. The following results were revealed:

First, by taking into account indirect effects mediated by social-gender development as well as education and social protection expenditures, state capacity had significant impact on reducing maternal mortality in all, and old districts :

$$(\gamma = -0.10 \text{ for Model 4 and } \gamma = -0.16 \text{ for Model 6}).$$

These effects were particularly driven by the positive direct effect of state capacity on the factor of social-gender development and negative direct effect of social-gender development factor on MMR.

Second, while the influence of state capacity in all models was significantly linked to high levels of social-gender development,

$$(\gamma_{11} = 0.45 \text{ for Model 4, } \gamma_{11} = 0.39 \text{ for Model 5 and } \gamma_{11} = 0.42 \text{ for Model 6}),$$

state capacity was not significantly associated to the increase in education and social protection expenditures in all models. Similarly, while social-gender development was

Table 3. Path Analysis of Social-Gender Factors and MMR in Indonesia

Variable		Model 1 All	Model 2 New Districts	Model 3 Old Districts
MMR (log)	← Social Gender Development (SGD)	-0.38***	-0.29***	-0.34***
	← Education and Social Protection Expenditure (ESPE)	-0.19***	0.33*	-0.11
	← State Capacity	0.06	0.17#	-0.01
	Indirect via SGD	-0.17***	-0.11*	-0.14***
	Indirect via ESPE	0.01	-0.01	-0.01
	Total Effect	-0.10*	0.05	-0.16*
	← Social Fragmentation	-0.02	0.05	-0.06
	Indirect via SGD	-0.03	0.05	-0.04#
	Indirect via ESPE	0.01	0.02	0.01
	Total Effect	0.04	0.08	-0.09
	← GRDP per Capita (log)	-0.09	-0.16	-0.12
	Indirect via SGD	-0.18***	-0.12**	-0.19***
	Indirect via ESPE	0.13***	0.28*	0.07
	Total Effect	-0.14***	0.00	-0.24***
	← Population (log)			
	Indirect via SGD	-0.11***	-0.12**	-0.06*
	Indirect via ESPE	-0.11**	0.11*	-0.07
	Total Effect	-0.22***	0.23***	-0.13*
SGD	← State Capacity	0.45***	0.39***	0.42***
	← Social Fragmentation	0.07	-0.18*	0.12*
	← GRDP per Capita (log)	0.47***	0.42***	0.57***
	← Population (log)	0.31***	0.41***	0.17***
ESPE	← State Capacity	0.04	0.03	0.06
	← Social Fragmentation	-0.03	0.05	-0.03
	← GRDP per Capita (log)	-0.67***	0.84***	-0.60***
	← Population (log)	0.57***	0.33***	0.63***
SGD ↔ ESPE		-0.12*	-0.12	-0.01
Social Fragmentation ↔ State Capacity		-0.16*	-0.12	-0.13*
Social Fragmentation ↔ Population (log)		0.29***	-0.03	-0.28***
Social Fragmentation ↔ GRDP per capita (log)		0.32***	0.19	0.38***
State Capacity ↔ GRDP per capita (log)		-0.26***	-0.12#	-0.51***
State Capacity ↔ Population (log)		-0.05	-0.05	-0.32***
GRDP per capita (log) ↔ Population (log)		0.03	0.03	0.02
pR^2 ... Social Gender Development		0.40	0.48	0.29
pR^2 ... Education and Social Protection Expenditure		0.79	0.78	0.79
pR^2 ... MMR		0.16	0.11	0.15
pR^2 ... Overall		0.88	0.89	0.84

Note: Standardized coefficients, significant at # $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

significantly related to low levels of MMR in all models, the negative direct effects of education and social protection expenditures on MMR were only significant in all and new districts:

$$(\beta_{32} = -0.19 \text{ for Model 4 and } \beta_{32} = -0.33 \text{ for Model 5}).$$

Third, the results of all models indicated that social fragmentation has no direct impacts on maternal mortality. Fourth, GRDP per capita was directly linked to high levels of social-gender development in all model. On the other hand, it was negatively associated to the low level of education and social protection expenditures in all models. Therefore, the negative total effect of GRDP per capita on MMR was only significant among all and old districts. The total effect of GRDP per capita on MMR even disappeared in new districts particularly when it was mediated by the factor of education and social protection expenditures. Fifth, high population was linked to increased expenditures in social-gender development as well as education and social protection for all types of districts. Finally, high number of population was associated with lower level of maternal mortality in all types of districts:

$$(\gamma = -0.30 \text{ for new districts and } \gamma = -0.07 \text{ for old districts})$$

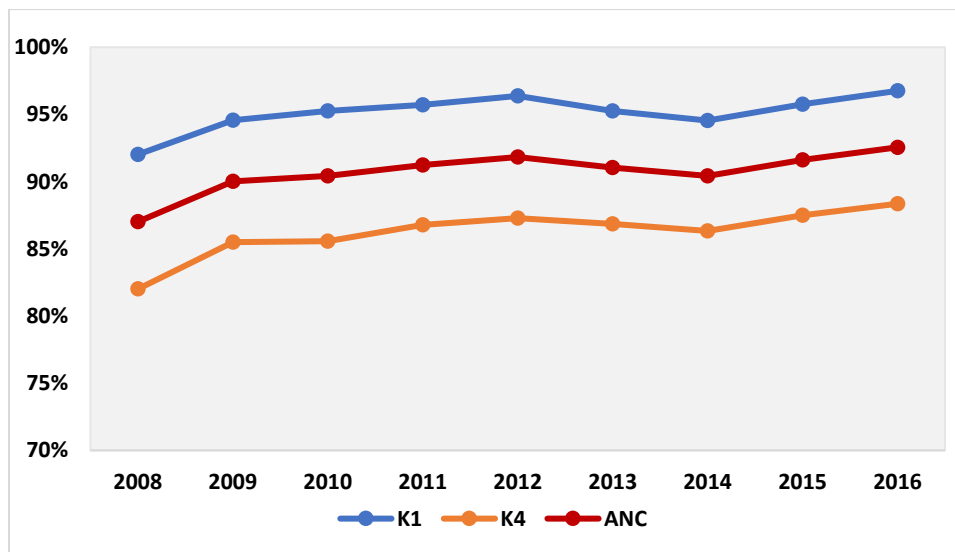
Discussion

The main objective of this study was to examine the extent to which state capacity and social fragmentation affect maternal mortality disparities in Indonesian districts. In line with the researcher's hypothesis, the study argued that state capacity will indirectly influence the level of MMR through improvements in health and social-gender factors. The study also found that the effects of state capacity differ between new and old districts. Social fragmentation, on the other hand, would lead to a high level of maternal mortality.

The results of the statistical analyses presented in this study generally supported hypothesis 1 and confirmed that state capacity influences indirectly the level of MMR through the progress in health and social-gender factors. This study revealed that state capacity leads to improvements in the provision of antenatal care and skilled attendants in all

types of districts. The increase in antenatal care and skilled attendants at birth was associated with low-level maternal mortality in all and old districts, but not in new districts. Several studies are often associated the improvement in antenatal care and safe delivery services to economic development. Yet, in addition to economic factor, this study revealed that state capacity plays important role in the improvement of antenatal care as well as safe delivery services. This finding has also confirmed the argument that state capacity is “a cause of the cause” of low level of maternal mortality mediated by the increase in antenatal care and the skilled attendant at birth.

The proportion of antenatal care at birth in Indonesia has been approximately 90% during the last few decades. However, a significant increase occurred particularly after 2009, and peaked in 2012 and continued to increase after 2014 (see Figure 6). State provision of free antenatal and delivery services was the main reason behind the increase of antenatal and



Note: K1 and K4 are receiving at least one and four times of antenatal care during pregnancy, respectively.

Figure 6. Proportion of Antenatal Care (ANC) in Indonesia 2008-2016 (Source: The Directorate General of Nutrition, Maternal and Child Health; [Direktorat Jenderal Bina Gizi dan Kesehatan Ibu dan Anak] of the Indonesian Ministry of Health, 2016)

skilled attendant at birth. Thus, state capacity plays an important role in the provision of these free services. This development started since the country's transition to democracy in 1998, which became the starting point to the transformation of social protection policies in Indonesia including social health insurance (SHI) programs. Both national government and local government had begun to provide SHI for the poor through various schemes such as *Askeskin* (Health Insurance for the poor) which was later transformed and extended into *Jamkesmas* (Community Health Insurance) as well as *Jamkesda* (local health insurance) initiated by local governments. These schemes were later unified into universal health coverage (JKN/ National Health Insurance) launched in 2014. One benefit of these schemes has been to cover free antenatal and delivery services. As revealed in some studies, ownership of social health insurance schemes has been positively associated with the increase in maternal care (Fox, Wirtz, Feeley, & Sabin, 2017; Hartwig et al., 2017; Wang, Wang, Temsah, & Mallick, 2017).

In 2011, the national government launched *Jampersal* (Delivery Insurance) to cover whom and what was not covered by the available schemes. This scheme, however, was halted in 2014 then re-launched in 2017. Although *Jampersal* is a national program, it is the local government's responsibility to manage and implement the program.

Similar to the antenatal care and the skilled attendant at birth, positive association of state capacity and health expenditure was found in all types of districts. Nevertheless, even though the positive impacts of the increase in health expenditure on the level of MMR was found in all districts (Model 1), this association was statistically significant only in new districts. High level of health expenditure was not significantly linked to the low level of maternal mortality in old districts. There are several possible explanations for this finding.

First, the increase in health expenditure cannot capture the specific spending for maternal health care and services. There is a possibility that although the overall proportion of health expenditure had increased, the specific proportion of maternal health remained small.

Second, although the proportion of health expenditure had increased significantly, it was not optimally used for the benefit of the public. Third, private health spending was still dominant especially in old districts that were more likely to be more urbanized.

Compared to global health expenditure, Indonesia's health expenditure is relatively low. In 2015, the country only spent approximately 3% of its gross domestic product (GDP) on health, which was much lower than the average of global health expenditure (10% of GDP) (WHO, 2018). Private health spending per capita in Indonesia is still significantly higher compared to Thailand and Malaysia, and many private hospitals and clinics especially in urban areas have contributed to the increase in out-of-pocket spending (Agustina et al., 2019).

Indonesia Government health expenditures within the country, on the other hand, has increased significantly since 2000, when several new forms of social insurance and financial decentralization were developed (Agustina et al., 2019). However, due to unclear records of spending on maternal and neonatal health, it is hard to assess the effectiveness of the maternal health expenditures on maternal health outcomes. Until 2012, for instance, Indonesia did not have a reproductive, maternal, newborn and child health (RMNCH) account which made it hard to measure government spending on maternal health (Adashi et al., 2013).

Several records have indicated that although the central government has increased the maternal health allocation through several programs like the Health Operational Fund,

(*BOK/Bantuan Operasional Kesehatan*) and *Jampersal*, in which there was indication that local government reduced their own maternal health budget. This has adversely affected the overall effect of maternal health expenditure on MMR (Adashi et al., 2013). Other studies have also revealed that from 2007 to 2009, districts had allocated 2.8-9.1% of their total health spending to public health programs and 17% out of those public health spending were allocated for maternal and child health (MCH) services. On average, districts' MCH expenditure per capita was approximately 3,250 IDR (Indonesian Rupiah) per capita (Mahlil, 2009). Similarly, another study analyzing the government health budget from 2008 to 2011 found that districts' budget for public health services ranged from 7.5 to 13.5%, and 5% of this public health expenditure was allocated for MCH. On average, districts' MCH expenditure per capita was approximately 9,000 IDR per capita (approximately \$1.00 US dollar at that time or less than \$1.00 in recent currency exchange, Seknas-Fitra, 2012).

After decentralization, local governments became responsible for providing health care. Local governments mainly depend on the transferred funds from the central government. However, the complicated financial mechanism between intergovernmental institutions, variations of local governments' capacity to generate their own health revenue as well as their capabilities to manage their financial and implement their health programs has led to inefficiencies in the use of the government health expenditure. A study on the implementation of health operational fund (BOK) – supplemental funds (in addition to health funds transferred to local government) from Ministry of Health directly to local health facilities (*puskesmas*) – to cover health protection and promotional programs (non-personnel), for instance, revealed that 27% out of total BOK fund in 2010 (23.3 million out of 74.6 million IDR) was allocated for MCH activities. However, 85% (17.2 million IDR)

out of a total MCH budget was used for transportation costs (Adashi et al., 2013).

Additionally, lack of accountability and transparency regarding the use of the budget became another problem that hindered the optimal effect of health expenditure on maternal health.

Indonesian Corruption Watch (ICW), for instance, revealed that from 2010 to 2015, there were a least 219 cases of health corruption (132, 73 and 14 cases were in western regions, east regions and at the national level, respectively). The overall state loss from this health corruption reached 890,140.90 billion IDR (455,827.60 billion from west regions' cases; 386,220.60 billion from eastern regions' cases and 48,092.70 billion from national level cases, ICW, 2017).

In relation to hypothesis 1, this researcher confirmed that state capacity is associated with increases in the factor of social-gender development in all types of districts. The increases in social-gender development in this research were linked to the decrease in maternal mortality. The findings validated the arguments that social development through education and the improvement of women status and gender equality in society are a strong predictor of decreased maternal mortality. Importantly, these findings have validated the argument that state capacity is “the fundamental cause” of changes in social-gender development which, in turn, influence the low level of maternal mortality.

The findings of the study also support hypothesis 2 indicating that the effect of state capacity on the levels of MMR has varied between new and old districts in Indonesia. While state capacity was found to be associated with lower level of mortality in the old districts, it was not the case for the new ones. In the new districts, state capacity was not significantly associated with the lower level of mortality. This finding validates some previous works in this subject, arguing that the length of state formation affects the levels of state capacity

which, in turn, influences the level of public welfare (Chanda & Putterman, 2005; Eisner, 2001). The finding also confirms that state capacity can vary within a country's subnational levels which, in turn, affects the variation among public goods services. For instance, Foa and Anemirovskaya (2016), who used the term of frontier zones when referring to new countries or regions that have been extended from their core regions, posited that frontier states were likely to have lower levels of public good provisions and public order.

In the context of Indonesia, decentralization has played a role in the subnational level of state formation. One of the consequences of the decentralization in Indonesia was local government proliferation/territorial splits. However, the extent to which the creation of new districts is likely to improve health outcomes is still subject to debate. Some have argued that decentralization and territorial splits have brought about some negative effects such as bureaucratic and political rent-seeking (Fitriani, Bert, & Kaser, 2005), while others have claimed that decentralization and territorial splits are expected to bring better public policies and public good provisions. Similar to the findings of this study, several studies have also suggested that, in general, the new districts have not achieved their expected performance (MOHA, 2011).

In relation to hypothesis 3, the findings of this study revealed that social fragmentation is associated with a decrease in state capacity and both health factors (ANCSAB and HE). However, there was no significant evidence that social fragmentation is directly linked to low levels of social-gender development as well as education and social protection expenditures. Additionally, there was no significant positive association between social fragmentation and maternal mortality. There are at least two possible explanations for these findings.

First, local homogeneity within a heterogonous district has helped to reduce the negative effect of social fragmentation. Studies on the relationship of social diversity and public good provisions have been long discussed and the general findings have revealed that diverse societies are more likely to have worse public good provisions than those of homogeneous societies (Alesina, Baqir, & Easterly, 1999; Alesina & Zhuravskaya, 2011). This perspective often views social diversity as a “diversity penalty” which hinders improvement in public good provisions. By looking at the local levels of diversity in Indonesia, a new study by Tajima, Samphantharak, and Ostwald (2018) revealed that homogeneity within a socially fractionalized societies in form of “geographical segregation” could reduce the diversity penalty in the society. In line with this finding, the current study demonstrated that the effect of social fragmentation differed between the new and old districts, and geographical homogeneity may provide an explanation for these variations. The diversity penalty in old districts can be minimalized by geographical homogeneity, whereas the lack of geographical homogeneity worsens the diversity penalty in new districts.

Second, the significant effect of economic development minimized the negative effect of social fragmentation. The findings of this study reinforced the impact of economic development found in the literature that economic development measured by GRDP per capita was significantly associated with the increase in both health and social-gender factors in all districts. This significant effect of GRDP per capita has helped to reduce the diversity penalty in the old districts.

Conclusion

In summary, this study revealed the importance of state capacity in improving health, social and gender outcomes, as well as mending the unintended consequences of institutional

changes such as decentralization and local government proliferation and their effect on maternal mortality disparities in Indonesia. The analysis on state capacity, social fragmentation and maternal mortality disparities in subnational levels of Indonesia has generated important new understandings regarding several research concerns. First, the analysis contributes to the theory of fundamental social causes of health inequality. This theory suggests that social conditions affect health due to their influence on risk factors in which social conditions “powerfully shape the capacity to modify or eliminate identified risk factors” (Link & Phelan, 2010, p. 4). However, this theory often focuses more on social socio-economic characteristics. By focusing on state capacity, this study has revealed the importance of institution as part of social structure as the fundamental cause of health disparities. State, in particular, has the capacity to provide better public health care and services to reduce and remove identified risk factors.

Second, the findings contribute to the understanding of subnational state capacity. Studies on state formation and state capacity often focus on variations between countries while neglecting the fact that state formation also occurs differently within a country. Among the limited studies on the state formation and state capacity within the subnational level, the research is often based on European and other globally northern countries such as the United States of Canada (Foa & Anemirovskaya, 2016). Using the concepts of frontier and core regions to distinguish state formation among sub-national units within a country, Foa and Anemirovskaya (2015) pointed out the expansion over geographic periphery through the process of settlement and displacement of minorities as the causal mechanism for state development within the subnational level. This study contributes to type of literature by adding decentralization and local government proliferation as another mechanism shaping the

pattern of state formation and state capacity in subnational levels. This is particularly relevant in the context of developing countries that have experienced a significant application of decentralization and local government proliferation.

Third, the analysis of this study contributes to the literature on local government proliferation and its redistributive impacts on public health services. Although there is a growing interest on local government proliferation, it mainly focuses on determinant factors rather than the consequences of this phenomenon on public goods.

Fourth, this study contributes to the literature on the diversity penalty. It considered a negative association between social fragmentation with public provisions and other socio-economic outcomes including health. The findings of this study revealed that geographical homogeneity within fragmented communities helped to reduce the negative effect of diversity penalty on maternal mortality disparities in Indonesia. This finding confirmed other studies which have suggested that homogeneity within heterogeneous localities has helped to strengthen intra-level collective action and encourage inter-level advocacy efforts of other communities to improve their public goods provisions and health conditions (Yuhki Tajima et al., 2018).

In sum, this study contributes to the discussion of the important role of the state capacity in sub-national levels to deliver services, implement policies and improve the quality of public health and social provision to amend the problem of maternal mortality disparities within sub-national levels of a state. Nevertheless, one of the limitations of this study was the limited data availability in Indonesia. Thus, only one indicator of state capacity (extractive capacity) was utilized to gather data. Future studies might use other measures of input approach such as administrative capacity and bureaucratic autonomy to complement

this study. It will also be necessary for further research to focus on more comprehensive measures of state capacity to better understand the effect of state capacity on health outcomes such as maternal mortality.

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Appendix 1.1

Descriptive Statistics

Variable	Obs.	Mean	SD	Min	Max
MMR (log)	493	4.65	0.83	0	6.45
Gini	497	0.33	0.05	0.12	0.50
Ethnic Fractionalization	497	0.40	0.30	0.01	0.94
Religious Fractionalization	423	4.07	0.73	0.01	0.77
Local Government Revenue per GRDP	504	14.27	2.10	0	17.97
Basic Emergency Obstetric and Newborn Care (BEmONC)	491	0.02	0.04	0	0.77
Health Expenditure per GRDP per capita (log)	411	22.14	0.80	19.47	24.27
Antenatal Care	504	83.58	19.82	0	100
Skilled Attendant at Birth	504	80.40	22.82	0	100
Contraception Prevalence	450	61.69	23.79	0	100
Education Expenditure (log)	411	23.16	0.88	19.91	25.26
Secondary School Enrollment	509	67.79	10.54	15.88	88.83
Social Protection Expenditure (log)	411	20.05	0.73	17.43	22.79
Women in Local Parliaments	505	13.36	8.31	0	42.86
Average of Expenditure	510	7778.49	2999.22	1434	22090
The ratio of female over male on the average period of school participation	510	7.33	1.80	0.52	12.21
Women Life Expectancy	510	70.52	3.71	55.68	79.43
Population (log)	497	12.59	1.04	9.50	15.46
GRDP per capita (log)	510	3.39	0.68	1.58	6.16
New and Old Districts	510	0.41	0.49	0	1

Appendix 1.2

Rotated Factor Loadings, Communalities (h^2) and Percent of Variance of Health Factor

Variables	Factor 1 ANCSAB	h^2
Basic Emergency Obstetric and Newborn Care (BEmONC)	0.01	0.99
Antenatal Care	0.95	0.09
Skilled attendant at Birth	0.95	0.09
Contraception Prevalence	0.69	0.53
Percentage of variance explained	2.28	

Note: Method of extraction is Principal Components. Rotation method is Varimax with Kaiser Normalization

Appendix 1.3

Rotated Factor Loadings, Communalities (h^2) and Percent of Variance of Social-Gender Factor

Variables	Factor 1 SGD	Factor 2 ESPE	h^2
Education Expenditure	0.04	0.75	0.42
Secondary School Enrollment	0.59	-0.08	0.64
Social Protection Expenditure	-0.25	0.70	0.43
Women in Local Parliaments	0.17	0.00	0.85
Average of Women Expenditure per capita	0.72	0.01	0.46
The ratio of female over male on the <i>average period of school</i> participation	0.71	-0.28	0.42
Women Life Expectancy	0.50	0.09	0.56
Percentage of variance explained	1.72	1.15	

Note: Method of extraction is Principal Components. Rotation method is Varimax with Kaiser Normalization

Appendix 1.4

Rotated Factor Loadings, Communalities (h^2) and Percent of Variance of Social Fragmentation

Variables	Factor 1 Social Fragmentation	h^2
Gini	0.07	0.99
Ethnic Fractionalization	0.49	0.76
Religious Fractionalization	0.50	0.75
Percentage of variance explained	0.50	

Note: Method of extraction is Principal Components. Rotation method is Varimax with Kaiser Normalization

**CHAPTER 4. DOES LOCAL GOVERNMENT PROLIFERATION REDUCE
MATERNAL MORTALITY? EVIDENCE FROM INDONESIAN SUB-NATIONAL
GOVERNMENTS**

A paper to be submitted to Regional Studies

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Abstract

The purpose of this study was to examine the effect of local government proliferation on maternal mortality in Indonesia. Despite the large body of literatures on the determinants of local government proliferation, little is known about the consequences of the proliferation on public health services and outcomes. Drawing on in-depth interviews with local government officials, health providers, and non-state actors as well as observations of health care provision in four districts in Indonesia, this study revealed that the lack of local state capacity in the newly created districts contributed to higher rates of maternal mortality in the new districts compared to those of old districts. Not only did the lack of state capacity increase the dependency of local government on the central government resources, but it also discouraged the development of local initiatives and policies to reduce maternal mortality. This study also revealed that social embeddedness of street bureaucrats is necessary for the effectiveness of public health services.

Introduction

This study examined the effect of local government proliferation on maternal mortality. While many papers have been written on the determinants and consequences of

decentralization, there has been a lack of understanding about the effect of the creation of new local government units, which is often referred to as “government fragmentation” (Grossman, Pierskalla, & Dean, 2017) or “administrative unit proliferation” (Grossman & Lewis, 2014), on public services. Although the creation of a new local unit is often associated with decentralization, these are two distinct phenomena. Decentralization can be defined as the allocation of authority, responsibility, resources and accountability from the central to local governments (Falleti, 2013), whereas local government proliferation is considered as a political process resulting from the creation of new local government through the splitting of administrative jurisdiction into a larger number of smaller units in a relatively short period (Grossman et al., 2017; Lewis, 2017).

Since the diffusion of decentralization policy in the developing world in the 1990s through the early 2000s, many developing countries have seen a significant increase in local governments under their jurisdiction (Grossman & Lewis, 2014). As Grossman and Lewis (2014) have revealed, one of the direct consequences of decentralization reforms has been the proliferation of new local governments in many developing countries in Asia, South America and Africa. Decentralization has become a key aspect of local government proliferation because, without authority transfer to localities, the opportunity for policy initiatives and demands from below (citizens) for creating the new local government would be small.

Similar to decentralization, proponents of the government proliferation have suggested that the proliferation of local governments will lead to better policies and local public service deliveries. They argue that local government proliferation will reduce distance between local governments and their citizens. Government proliferation will also lead to the creation of smaller governments, which are expected to provide better public services for

their citizens (Pierskalla, 2018). While many people have written about the effect of decentralization on public services, few have specifically looked at the effect of local government proliferation. Empirical studies on this subject have focused on political and electoral implications (Gottlieb, Grossman, Larreguy, & Benjamin Marx, 2018; Hassan, 2016) and the effect of the proliferation of local government on violence/conflicts (Bazzi & Gudgeon, 2016; Pierskalla & Sacks, 2017). Studies on the redistributive impacts of local government proliferation on public good provisions and service deliveries are still very limited. These studies have also revealed mixed findings. For example, local government proliferation has contributed to improving nighttime light intensity and education outcomes in India (Asher & Novosad, 2015), and health outcomes such as infant and child mortality in Nigeria, Malawi and Uganda (Grossman et al., 2017). Nevertheless, other studies have revealed that local government proliferation has neither increased nighttime light intensity in Burkina Faso (Billing, 2018) nor improved education, water and sanitation access in Indonesia (Lewis, 2017).

Moreover, even if local government proliferation does contribute to improving the provision of public goods and service delivery by bringing the government closer to the people, these expected advantages of the proliferation might not be achieved easily. The increased proximity of local governments as policymakers to their citizens may not be sufficient to generate the anticipated benefits of local government proliferation as local service outcomes. This researcher posits that the extent to which local government proliferation will improve public service delivery is dependent of local governments' capacity not only to formulate policies but also to implement them. In terms of maternal mortality, this researcher argues that the high level of maternal mortality in the new districts

has been driven by the lack of local government capacity to formulate and effectively implement policies that are needed to reduce maternal mortality.

This study makes several contributions to the emerging literature on local government proliferation. First, it provides an empirical analysis of the effect of the proliferation on public health outcomes, particularly maternal mortality. Most studies on this subject have focused extensively on the determinants of proliferation of local governments rather than the consequences. Second, this study attempts to explain why the effect of the proliferation has varied between different types of local governments: new and old local governments, especially at the district level.⁸ Third, by comparing old and new local governments, this researcher sought to overcome some methodological issues that have constrained previous works. While focusing on split local government (new), these studies have added little to describe the variations between different types of local governments. A comparative analysis of different types of local governments was conducted in this study to examine variations of the effects of proliferation in old and new districts. Fourth, existing works on decentralization and the proliferation of local governments were largely concentrated on the country/state level of analysis using aggregate data. The use of local governments as the unit of analysis was done to prevent national bias in the analysis. Fifth, among the developmental state literatures, the exploration of the embeddedness, or “a concrete set of social ties that binds the state to society” (Evans, 1995, p. 59), in the context of “street-level bureaucrats” (Lipsky, 1980) – public service officials who interact directly with the public and implement policy on the ground (Pepinsky, Pierskalla, & Sacks, 2017) – is still very limited. To fill this gap, the

⁸ Local government refers to the government institution and district refers to the areas or the level of local government. This study use these terms interchangeably. Nevertheless, it also needs to be noted that local government proliferation may occur in different sub-national levels: provincial, districts, sub-districts or villages.

researcher examined the variations of embeddedness in different local governments that affect frontline bureaucrats to successfully achieve their objectives as the forefront providers of public services.

The remainder of this paper is organized as follows. The second section discusses the relationship between local government proliferation and local government capacity and its effect on public goods and health services. The third section examines local government unit proliferation in Indonesia, particularly after the implementation of decentralization. The fourth section focuses on case selection, method of the study and data collection from four districts in Indonesia. The fifth section addresses the findings of the study and the conclusion.

Local Government Proliferation, Local Government Capacity, and Public Service Delivery

Existing works on the determinants of local government proliferation can be divided into three common categories. The first category focuses on the *bottom-up/demand-side* factors of proliferation process. These studies have argued that the creation of new local governments is driven by demands for political autonomy, increased access to state resources, and homogeneity of preferences from below. This line of research has shown that other than demands for public good efficiencies, political pressures from ethnic heterogeneity within a local government also influence the creation of new local governments (Bazzi & Gudgeon, 2016; Pierskalla, 2016).

Second, there are a large body of empirical works that emphasize the *top-down/supply-side* determinants. These studies have suggested that the proliferation of local governments is driven by the political incentives of national political elites. Ample evidence suggests that the creation of new districts has often been used to extend patronage networks

that enable the national elites to win and secure a larger share of seats in future elections (Green, 2008; Kasara, 2006; Lewis, 2014), to weaken the powers of their regional political opposition (Kraxberger, 2004; Resnick, 2017), and gather political support for previously unsustainable economic reforms (Malesky, 2009).

Finally, some researchers have attempted to look at both bottom-up and top-down mechanisms of local government proliferation. Grossman and Lewis (2014), for instance, argued that the proliferation of local governments has often resulted from the convergence of interests among national-level elites who seek political incentives and local actors from politically, economically and ethnically marginalized areas who want direct access to local government resources.

Despite their differences, these arguments have shared the same theoretical roots in functional theory. According to this theory, local government structures have pivotal welfare consequences through their effect on public good provisions, taxation and local accountability relationship (Pierskalla, 2018). The positive effect of the proliferation of local government on public good provisions can be explained through two kinds of mechanisms. First, the creation of new local government implies a redistribution of fiscal resources, bureaucratic apparatuses and administrative responsiveness to marginalized areas which are more likely to have less access to public goods and services in the pre-splitting districts. Therefore, benefiting from greater authority on local expenditures, the formulation and implementation of local policies, the new local government would be able to provide better social service provisions to their citizens (Grossman et al., 2017). Second, the creation of new local governments is likely to reduce the average size of administrative units, and the creation of smaller units can lead to better public good provisions by encouraging

competition among local leaders (Grossman et al., 2017). In addition, a smaller size of local government will enable citizens to know their local leaders and bureaucrats better so they will be able to select favorable political leader candidates. Smaller local governments also enable the local governments to have better understanding of local needs so they are able to effectively deliver goods and services to the public (Pierskalla, 2018).

However, these promises of local government proliferation are not easy to achieve. In fact, rather than bringing better public good provisions, some evidence has suggested that the creation of new local governments may weaken the effectiveness of public good provisions in the new local governments' areas (Billing, 2018; Lewis, 2017). Post-functionalist theorists argue that state has two contrasting objectives, namely performing its functions to provide public goods or accommodate societal and identity demands (Hooghe et al., 2016; Hooghe & Marks, 2008). Post-functionalist theorists further argue that when state policies are politicized, it is more likely that identity/community pressures would have more domination than functional pressures (Hooghe & Marks, 2008). The effect of identity/community pressures differs from the effect of functional efficiency which, in turn leads, to heterogeneity of policy preferences and outcomes (Hooghe et al., 2016). In order to address the citizens' preferences on public goods and services, the local governments should have the ability to formulate and implement policies that in line with the citizens' preferences. Therefore, this researcher argues that the positive consequences of local government proliferation are dependent on the local government's capacity to provide public goods and services.

Drawing from the literature on state capacity and local government proliferation (Billing, 2018; Lewis, 2014) as well as on Weber's works on bureaucracy, local government

capacity⁹ can be defined as the ability of local government to provide quality and quantity of local bureaucracy and gain access to resources from local taxation and central government transfers. Nevertheless, as has been argued by researchers like Lewis (2014) and Billing (2018), local government proliferation will reorganize the distribution of administrative/bureaucratic capacity¹⁰ across different types of districts (non-splitting, splinters: parent and child districts) which, in turns, affects the variations of public good outcomes.

In the beginning, new and old districts will have different levels of starting points. While the old (non-splitting and parent) districts are likely to keep the pre-existing governmental institutions and bureaucratic personnel, the child/new districts will have new governmental institutions and apparatuses different from those of the parent districts. Some empirical studies have revealed that new local governments are likely to be short-staffed and lack technical skill to perform the minimum and necessary bureaucratic responsibilities (Lewis, 2014). Due to the lack of experiences in local administration and qualified human resources, it is also likely that the new districts will be less well-governed compared to more established local governments. Additionally, the new districts are likely to have less time to develop their institutional capacity. Therefore, the new districts are likely to have weak administrative capacity (Lewis, 2014).

Related to the issue of local government capacity, it is also important to look at the so-called “street-level bureaucrats” (Lipsky, 1980) who face citizens directly in the process of policy implementation at the grassroot level (Pepinsky et al., 2017). The evidence has

⁹ Some studies used administrative capacity for the local government capacity. This study uses both administrative and local government capacities interchangeably as administrative capacity is one indicator of local government capacity.

¹⁰ This study also uses administrative and bureaucratic capacities interchangeably.

suggested that street-level bureaucrats play an important role in the effectiveness of service delivery. Therefore, the low capacity of street-level bureaucrats will affect the quality and quantity of the public services. According to Evans (1995), the effectiveness of developmental bureaucracies depends on a balanced combination of autonomy and social embeddedness of these bureaucrats in society. The social embeddedness of bureaucracy implies that there should be social ties that links the state (bureaucrat) to society and offer institutionalized channels for uninterrupted negotiation and reorganization of policy objectives and its implementation (Evans, 1995). Different from other types of bureaucrats, street-level bureaucrats, who directly interact with the policies' beneficiaries, are the real policymakers through the policy's implementation process (Lipsky, 1980). Therefore, as local government proliferation affects the variations of street-level bureaucrats' capacity, social embeddedness is the key for street-level of bureaucrats to effectively deliver public services.

With regards to taxation as another indicator of local government capacity, non-splitting/old districts are likely to have better local taxation and bargaining power to access central government transfers. By retaining the pre-existing bureaucratic experiences and personnel, parent districts were able to tax and access central transfers more effectively than new districts. Meanwhile, due to their location on more rural/peripheral areas as well as the lack of bureaucratic experiences, child or new districts find it more difficult to generate local revenues. Additionally, a small district size may reduce the bargaining power of the local governments (particularly in new districts) to access central government resources (Billing, 2018; Lewis, 2014). Consequently, governments of new districts are more likely than those in old or parent ones to depend on central government resources for both financial and

human resources. Therefore, without their own resources, it is hard for governments of new districts to provide better public goods and services. Not only does the dependency on central government's resources weaken local governments' autonomy as the dependency but it is also likely to lead to re-centralization of intergovernmental power (Billing, 2018; Grossman & Lewis, 2014; Lewis, 2014). The dependency also weakens the local government's capacity to propose policy initiatives to address specific needs of the local population.

Decentralization and Local Government Proliferation in Indonesia

Indonesia has four main tiers of local governments: province as the largest tier of local government, districts (*kabupaten* and *kota*¹¹) and sub-districts (*kecamatan*) at the second and third tiers, respectively, and villages as the lowest level of government. In 2017, there were 34 provinces, 514 districts, 7201 sub-districts, and 83,447 villages in Indonesia¹².

Local government proliferation, also known as *pemekaran*, is not a new phenomenon in Indonesia. The proliferation has taken place in many parts of the country since the 1950s. Nevertheless, the process of government proliferation has intensified after the implementation of decentralization policy in 1999. Starting with only 12 provinces in the early 1950s and 259 districts in 1961, the number of provinces and districts increased to 27 provinces and 290 districts when Suharto's authoritarian regime was overthrown in May of 1998 (Booth, 2011). In 2017, official data from Indonesian Ministry of Home Affairs showed that there were 34 provinces and 514 districts. In short, there was approximately a 44% increase in new districts after decentralization was implemented in Indonesia. Nevertheless, it is worth noting that among the five main islands in Indonesia (Java, Sumatera, Kalimantan,

¹¹ *Kabupaten* refers to a more rural area than *kota*. However, both are in the same level of local government namely district level.

¹² These data are based on the Regulation of Indonesian Ministry of Home Affairs No. 137 Year 2017.

Sulawesi and Papua), most of the new districts were established outside of Java. There was only one new province established in Java, namely Banten, which split from West Java Province. As for new districts, only ten were formed in Java (see Figure 1).

New districts were created when the existing districts split from their original districts and formed their own local government. After the redistricting, the original district established two local governments: the parent (*induk*) district that kept the original capital and all pre-existing local government institutions but lost its territory and citizens. Child (*anak*) districts, on the other hand, obtained a new capital and new local government apparatus. Additionally, the term old districts refers to those that did not split districts.

Local government proliferation in Indonesia can be categorized as both top-down and bottom-up mechanisms. During the early years of decentralization policy, the creation of new local governments was mostly driven by national leaders' concern with national integrity due to the prevalence of political and economic crises, including regional conflicts, after the fall

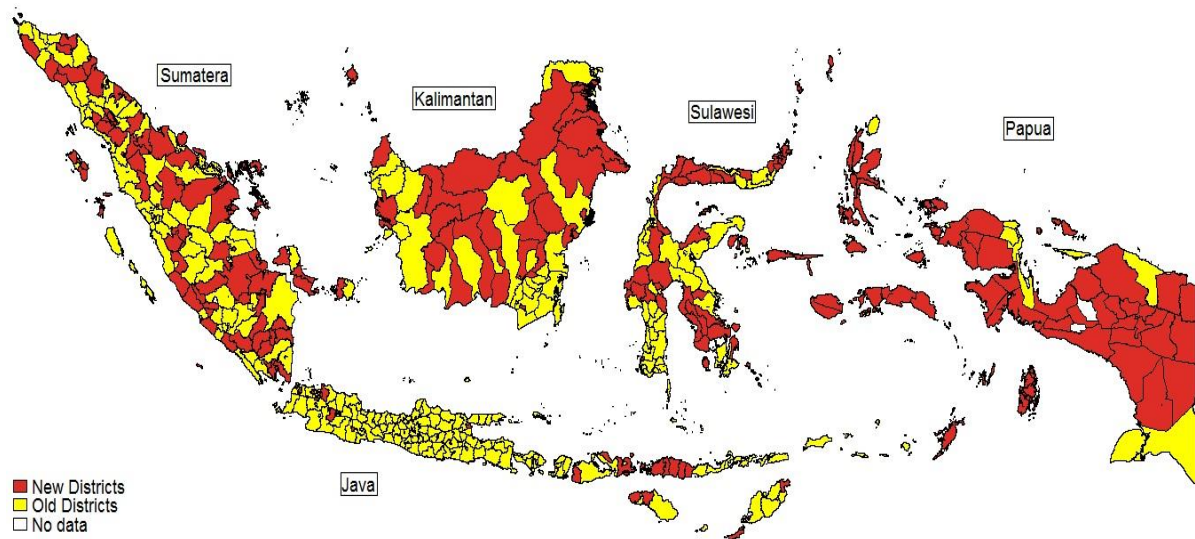


Figure 1. Old and New Districts in Indonesia after the Implementation of Decentralization, 2017

of Suharto (Pierskalla, 2016). However, in the following years, the high demand for the creation of new districts from local governments and local parliaments (Lewis, 2017) has suggested that the bottom-up mechanism has significant influence on the proliferation of new districts in Indonesia. Even though national-level actors were responsible for the general design of new districts, they have played a less influential role in the social and political processes leading to the creation of these new districts. Due to direct local elections, local governments are not directly associated with national level electoral districts. Therefore, there might not be significant political incentives for national elites to use proliferation as a political strategy to increase national electoral results (Pierskalla, 2016).

Some evidence has suggested that the implementation of decentralization, particularly political decentralization, has provided greater opportunities for local parliaments and politicians at the executive branch of the government to initiate the creation of new districts that allows a bottom-up process of the new district proliferation. As argued by (Pierskalla, 2016), the creation of new districts was largely driven by the demands from below, such as ethnic homogeneity preferences and the efficiency in public good provision. Although it may be argued that most of the creations of new districts outside Java were simply because the area outside Java is too large (Fitriani, Bert, & Kaser, 2005); in fact, districts outside of Java are more likely to have a high level of ethnic heterogeneity compared to those that are within Java (Arifin, Ananta, Utami, Handayani, & Pramono, 2015). Additionally, due to the long-held centralization policy during Suharto's regime (1967-1998) that was concentrated in Java, many of districts outside of Java tended to be less developed and lacked public good provisions compared to those that were in Java. Therefore, demands for proliferation were more common among districts outside of Java (Booth, 2011).

The proliferation of local government in Indonesia has been hotly debated among national and local political elites. Based on the undesirable performance of the new local governments (BAPPENAS & UNDP, 2008), the central government established tighter measures for the creation of new local governments. First, the amendment to Government Regulation 129/2000 as the legal basis for the proliferation in Indonesia into Regulation 78/2007 which set more difficult requirements for the creation of new local governments. Second, the central government issued a moratorium on the creation of new districts from 2004-2006 (Lewis, 2017) and started a new moratorium in 2009 (Kemitraan, 2011). However, these measures were not successful enough to prevent the national parliament from approving the proposals of local governments and parliaments for the creation of new local governments. Data from the Ministry of Home affairs revealed that at least 71 new districts were created from 2007-2014 (MOH, 2014). Some have argued that inconsistency between the central government and the parliaments suggested that the creation of new districts was often driven by political/electoral incentives (Zuhro, 2013). Many of new local governments were created before elections. Figure 2 illustrates that out of 71 new local governments created after the moratorium, 29 local governments were created before the 2009 election, and other nine local governments before the 2014 election.

Although concerns with public good provision efficiencies have been identified as one of the determinants of the new district creation in Indonesia, the extent to which the district proliferation affected the effectiveness of public good provisions and service deliveries is still understudied. This study, therefore, examined the effect of local government proliferation on public good provision and service delivery with specific attention to maternal mortality disparities among districts in Indonesia.

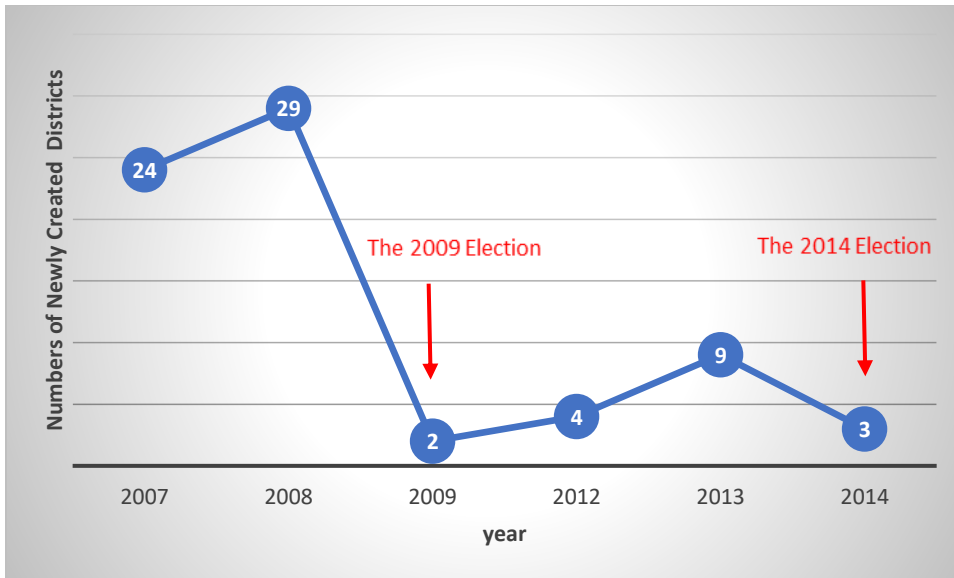


Figure 2. Newly Created Districts in Indonesia, 2007-2014
(Source: The Indonesian Ministry of Home Affairs, 2014)

Case Selections and Methods

Despite—or partly due to—the massive proliferation of local governments (*pemekaran*) in Indonesia after the decentralization policy, disparity in the quality of public service deliveries, including health care provision, among sub-national levels is still persistent. Reflecting this disparity, maternal mortality ratio has varied widely across regions. The researcher selected four districts to explain this disparity, namely Ambon and East Seram in Maluku/Moluccan Province and Ternate and North Halmahera in North Maluku/Moluccan Province¹³ to examine the extent to which the proliferation of local governments has affected maternal mortality disparities.

Macro-causal analysis was used as the approach for selecting these four districts. The analysis is similar to multivariate hypothesis testing which uses “groups and cases to control

¹³ North Maluku was originally a district level government of Maluku Province. It then became a new separated province, North Maluku Province in 1999.

source of variation in order to make causal inferences” (Skocpol & Somers, 1980, p. 182).

Among the basic analytic designs of macro-causal analysis rooted in Mill’s methods of comparison, this study used the method of difference. Different from the method of agreement, which selects cases having common phenomenon to be explained, the method of difference selects cases based on the difference to be explained and hypothesized causal factors that explained the difference (Pennings, Hans Keman, & Kleinnijenhuis, 2006; Skocpol & Somers, 1980).

Table 1 presents the analytic design of this study. In terms of phenomenon to be explained, two paired comparison of Ambon – East Seram and Ternate – North Halmahera (see Figure 3) were selected due to their contrasting trend in maternal mortality. In terms of hypothesized causes, first, Ambon and Ternate were chosen to represent old districts. Ambon had been established long before the Indonesian independence in 1949. In 1926, Ambon officially became a Dutch colonial governmental unit led by JAF Schut as the mayor or *Burgemeester Amboina* (Ricklefs, 1991). Similarly, Ternate was the capital city in North Maluku since 1945-1959 when North Maluku was part of East State of Indonesia. In 1981, Ternate became an administrative city – a non-autonomous level of government as it did not have local legislative and under the responsibility of the district level of government. However, like a district, an administrative city has an administrative authority led by a mayor. There were 42 administrative cities in Indonesia before they finally transformed into district level of governments in 1999 based on Law No 22 Year 1999 that recognizes four tiers of governments: province, districts, sub-districts, and villages. Ternate was also transformed into an autonomous district in 1999 under the Law No. 11 Year 1999.

Table 1. Method of Difference of Case Selection

District	Social and Political Characteristics			Hypothesized Causes		Phenomenon Explained
	Ethnic Fractionalization Index ¹⁴	Religious Fractionalization Index ¹⁵	Conflict	Local Government Proliferation	State Capacity (LEG)	MMR ¹⁶
Ambon	High (0.87)	High (0.43)	High	Old district	High (63.2)	Low MMR (31.47)
Ternate	High (0.872)	Low (0.03)	Low	Old district	High (64.7)	Low MMR (26)
East Seram	High (0.63)	High (0.45)	Low	New district	Low (40.7)	High MMR (514.63)
North Halmahera	High (0.84)	High (0.35)	High	New district	Low (53.2)	High MMR (469)

**Figure 3.** Map of Research Sites Created by Author using GoogleMap

In contrast, East Seram and North Halmahera were selected to represent new districts established in the early process and/or after decentralization implemented in 1999. As a district level of government, East Seram was established in 2003 under the Law No. 43 Year 2003. It was originally one of sub-districts (*kecamatan*) in the Central Maluku district. Similarly, North Halmahera was established as a district level of government in 2003 based on Law No. 01 Year 2003. It was previously part of North Maluku district.

¹⁴ The data of Ethnic Fractionalization Index were calculated from the 2010 Indonesian census and taken from Arifin et al. (2015)

¹⁵ The data of Religious Fractionalization Index were based on the work of Tajima (2013).

¹⁶ These are MMR data in 2017. The data were taken from The *Directorate General of Nutrition, Maternal and Child Health (Direktorat Jenderal Bina Gizi dan Kesehatan Ibu dan Anak)* of the Indonesian Ministry of Health, as well as from local health department in the four districts.

Second, this study includes the level of state capacity of the four districts to examine the association between local government proliferation and local government capacity, and analyze the effect of this association on the level of maternal mortality. Some studies have identified that the splitting areas are likely to have low level of administrative capacity (Billing, 2018; Lewis, 2014). In line with these studies, using data of local economic governance/LEG (KPPOD, 2011) as the measure of local government capacity, the new districts have low capacity compared to the old districts.

In addition to these crucial differences, the study considered similar social and political backgrounds in selecting the cases. First, ethnic and religious heterogeneity are another reason for selecting these four districts to examine the extent to which social heterogeneity affects the quality of public goods provisions and services including maternal health services. Maluku and North Maluku, in general, are among the most ethnically heterogeneous provinces in Indonesia. Therefore, the four districts in the study have a relatively high level of ethnic heterogeneity. Similarly, they also have high religious heterogeneity except for Ternate which has only a low level of RFI (0.03). Some empirical studies have often associated more ethnically heterogeneous populations with a lower quality of public goods and services (Alesina, Baqir, & Easterly, 1999; Banerjee & Somanathan, 2007) and the proliferation of local government is often driven by homogeneity preferences (Pierskalla, 2016).

Second, the four districts were selected to capture different levels of conflict. After the fall of authoritarian era in 1998, Indonesia experienced various political and economic crisis leading to violent conflicts. One of the biggest conflicts occurred in Ambon from 1999 to 2004 which affected more than 3,000 people who died, and more than 400,000 people

were displaced (Ansori et al., 2014). Many studies have considered the conflict in Ambon as a multidimensional conflict because it was driven by various determining factors such as socio-economic inequality between different ethnic and religious groups, changing relation of *adat*/tradition, separatism, military and provocation theory (Brauchler, 2015). Although some were hesitant to consider the Ambon conflict as religious or ethnic conflict, others identified that changing relations between Christian and Muslim who are approximately in the same proportion (about 50-50%); between the local ethnic groups and the migrant ethnic groups, particularly as those who were from Sulawesi Island (well known as BBM: Bugis, Buton and Makassar) played important roles in triggering the conflict (Schulze, 2017).

Like in Ambon, high level of conflict also occurred in North Halmahera which was still part of North Maluku district in 1999 to 2000. Although some argued that similar to Ambon conflict, the conflict in North Halmahera was driven by many factors including conflict on lands and natural resources (mining areas), the conflict initially triggered by violent incident between different ethnic and religious groups (Duncan, 2005). The conflict in North Maluku reached its peak in December 1999 when it spread to sub-districts in which the proportion of Christian and Muslim are almost equal (Hermkens & Timmer, 2011). Although it was not as bad as the conflict in Ambon, the conflicts reached almost all areas in Maluku province including Seram island (which split into East and West Seram) and Ternate which was also affected by the conflict in North Halmahera (Alhadar, 2007).

In terms of public good provision and service deliveries, conflict prone areas were often associated with low quality of public good and services and due to the destruction of various public health infrastructures, they are also susceptible to low level of health outcomes including high level of maternal mortality (Lee, 2008). This study hypothesized that high

level of local government capacity in new districts could reduce the negative effects of ethnic and religious heterogeneity as well as conflict experiences on health outcomes such as maternal mortality.

This study used both secondary and primary data. The former included government documents from national as well as local governments in the four districts. As for the primary materials, the researcher conducted fieldwork in Jakarta in August 2017 and in Maluku and North Maluku provinces in January-March 2018. Using a purposive/non-random technique, I interviewed national policymakers from the Indonesian Ministry of Health in Jakarta (two), local policymakers such as local leaders and the local bureaucratic apparatus in local health department (eight), health officials such as doctors and midwives in public health facilities (*puskesmas*) (29), and academia (four). In total, I conducted 43 in-depth and semi-structured interviews. These informants were comprised of five men and 38 women. They were purposively chosen due to their understanding of the research problem (Creswell & Poth, 2018) namely the issue of maternal mortality. The interviews were conducted in the informants' office, at home privately and *puskesmas*. In addition to recommendation on who to interview, I purposively visited local health departments and *puskesmas* to interview officials, doctors and midwives who were responsible for maternal health issues. I created an interview guide which functioned as a framework for the main body of a semi-structure interview based on the key questions addressed in this study (Arksey & Knight, 1999). In addition to interviews, I also used informal participatory observations by attending a routine activity of *puskesmas*, maternal mortality audit meeting and training as well as coordination meeting of local health department. Institutional Review Board (IRB) approval, informed consent forms and the interview guide appear in Appendix C, D, and E, respectively.

The data analysis process was done simultaneously with the data collection process, through reflexivity on what the informants had explained and connecting this to the theoretical framework. The data from the interviews were transcribed as part of the initial data processing. It assisted me to remember what had happened during the interviews, to code and identify common patterns and themes in the data. I used first and second cycle coding (Miles, Huberman, & Saldana, 2014). While the first cycle coding is an initial technique to summarize segments of data, the second cycle coding is a technique to classify summaries into a smaller number of categories and themes (Miles et al., 2014). These themes included bureaucratic and financial capacities of local governments; policies and strategies to reduce maternal mortality; challenges that local government and health providers had to face in providing maternal health services and reducing maternal mortality; traditional and cultural values as well as social diversities that help or hinder the implementation of maternal health policies. Pseudonyms were used to protect the informants' identities. As part of my observation data, the use of my researcher's reflexive notes that were incorporated into the transcriptions enabled me to provide more solid results and interpretation. Finally, the use of statistical data from national and local government documents enabled me to provide additional empirical evidence on the analysis and interpretation.

Results and Analysis

Data on MMR showed that the old districts, Ambon and Ternate had lower maternal mortality ratio compared to the new districts, East Seram and North Halmahera (see Table 1). Confirming the findings of other studies (Billing, 2018; Lewis, 2014), I noted that the variation in the levels of local governments' capacity in new and old districts affected the difference in MMR. The lack of bureaucratic and financial capacity, particularly in the new

districts, made it difficult for these districts to fund and effectively manage their own maternal health programs which, in turn, increased the number of maternal mortalities in the regions.

Variations in Bureaucratic Capacity and Maternal Mortality

Bureaucrats' education (civil servants' educational level) can be used as an indicator of bureaucratic capacity as education functions as the proxy of bureaucracy's professionalism and qualification (Bhavnani & Lee, 2018). The higher the level of civil servants' education, the more likely they have better expertise to deal with bureaucratic matters. The evidence revealed that the education level of civil servants in Ambon as an old district was better than that in the East Seram as a new district. In the former, the bureaucracy was initially dominated by those who had a diploma degree in 2010. However, the proportion of bureaucrats with a diploma degree decreased in the following years (2013-2016) as the percentage of civil servants with a university background increased in the district government. By contrast, even though the number of university graduates in East Seram government increased during the last few years (2014-2016), the ratio of civil servants with diploma degree remained high (above 40% in 2015-2016, see Figure 4).

A similar pattern of old-new district differences can also be seen between Ternate (old) and North Halmahera (new). In the former, university graduates dominated local government staffs as the ratio of civil servants with diploma and high school backgrounds were relatively small. In contrast, local bureaucracy in North Halmahera was dominated by high school graduates (see Figure 4).

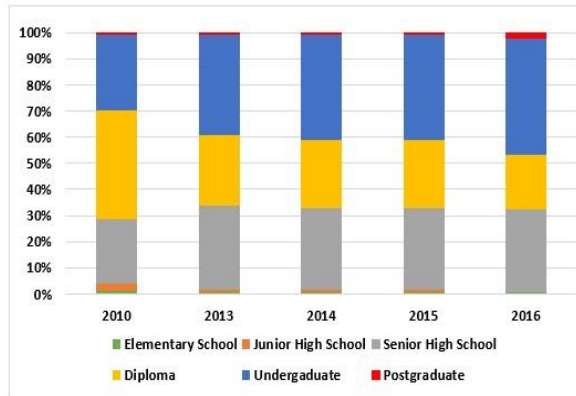
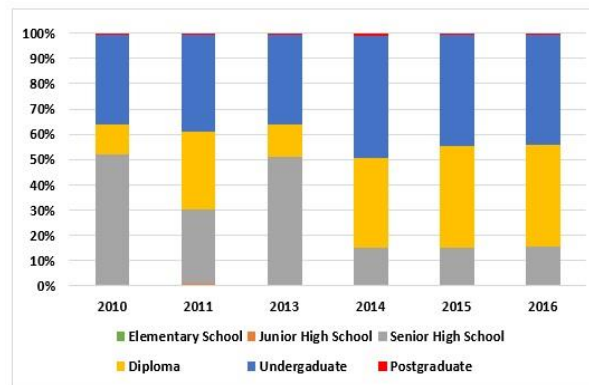
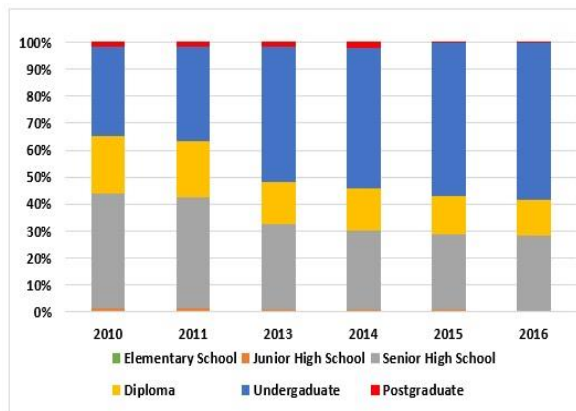
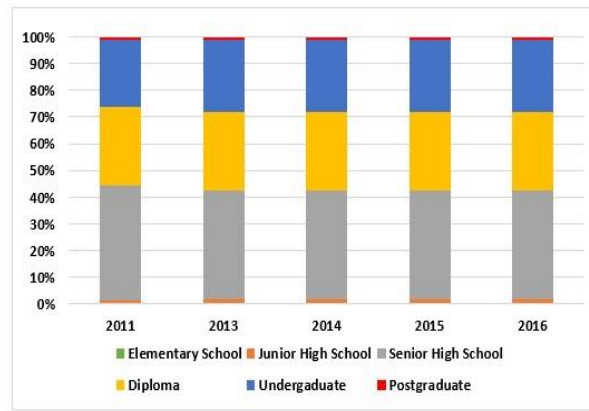
Ambon**East Seram****Ternate****North Halmahera**

Figure 4. Percentage of Civil Servants by Education, 2010-2016
(Source: Central Bureau of Statistics, 2010-2016)

As part of street bureaucrats, health personnel such as doctors, nurses, and midwives, play an important role in the effectiveness of service delivery. The evidence illustrated that in terms of educational background, health personnel in Ambon and Ternate were also much better compared to those in East Seram and North Halmahera. In 2016, the proportion of civil servants in the health department in Ternate who had a university education was 31.46%. In contrast, only 12.89% of civil servants in the health department that had a university education in North Halmahera in 2014.

Table 2. MMR, Maternal Health Care, Health Facility, and Health Personnel

	Maluku Province		North Maluku Province ¹⁷	
	Ambon (Old)	East Seram (New)	Ternate (Old)	North Halmahera (New)
MMR (Average 2010-2017)	51.28	569.07	128.13	343.91
<i>Health Care</i>				
Percent of Antenatal Care/K1 (Average 2010-2016)	84.86	72.66	98.18	90.91
Percent of Antenatal Care/K4 (Average 2010-2016)	76.17	59.22	92.70	79.24
Percent of Birth Assisted by Skilled Attendant (Average 2010-2016)	75.90	54.78	83.32	77.88
Percent of Birth Assisted by Skilled Attendant in Health Facility (Average 2010-2016)	51.69	22.01	63.18	59.38
<i>Health Facility</i>				
Ratio of Puskesmas (Public Health Center/PHC) per 100,000 (Average 2010-2016)	5.83	16.29	4.68	9.77
Ratio of Public Hospital per 100,000 (Average 2010-2016)	1.51	0.95	1.50	1.32
Ratio of Private Hospital per 100,000 (Average 2010-2016)	1.05	0	2.54	0.58
<i>Health Personnel</i>				
Ratio of Midwives per 100,000 (Average 2010-2016)	50.68	54.63	67.42	79.08
Ratio of Village Midwives per 100,000 (Average 2010-2016)	28.94	43.02	43.51	73.39
Ratio of Village Midwives living in the Village per 100,000 (Average 2010-2016)	4.75	34.10	23.80	52.01
Ratio of Obgyn per 100,000 (Average 2010-2016)	2.42	0	2.72	1.15
Ratio of General Physician (GP) per 100,000 (Average 2010-2016)	26.58	14.68	36.78	16.49
Ratio of GP at Puskesmas/PHC per 100,000 (Average 2010-2016)	8.34	13.62	8.72	10.81

Source: Data were author's calculation based on the data from the Directorate General of Nutrition, Maternal, and Child Health, the Indonesian Ministry of Health, as well as from local health department in the four districts.

Additionally, although there have been significant increases in the numbers of doctors (general practitioners/GP) in Indonesia, they are unequally distributed across provinces and districts. They are mostly concentrated in big cities and urban areas and more than 50% of these doctors are concentrated in Java and Bali (MOHRI, 2018). Due to this unequal distribution, midwives and nurses have become important health care providers for rural

¹⁷ Probably due to the provincial effect, the data on North Maluku are relatively higher than those that of in Maluku province.

populations. Therefore, the number of nurses and particularly midwives, partly due to the implementation of village midwife program since 1989, was often higher in rural areas than in urban ones.

In the context of child and maternal health care, midwives played an important role in delivering these services, particularly in rural areas. Data from the Indonesian Demographic and Health Survey (IDHS) in 2002, 2007 and 2012 illustrate that the midwives are the main providers of maternal care. The number of midwives was higher in rural areas than that in urban ones. The proportion of maternal care provided by general practitioners and ob-gyn was still small and concentrated in urban areas.

In the four districts studied, data on health personnel presented in Table 2 reveal that as *kabupaten* (peripheral/rural areas), East Seram and North Halmahera have higher ratios of midwives than that in Ambon and Ternate, which means that the numbers of village midwives and the village midwives living in the village per 100,000 people in the former two districts were higher than those in Ambon and Ternate as *kota* (city/urban areas). In contrast, the ratios of GP and obgyns per 100,000 people were higher in Ambon and Ternate even though the ratios of general practitioner in public health center (*puskesmas*) were higher in East Seram and North Halmahera. To be a nurse or midwives, someone will have to finish nurse or midwife education, which takes between one to three-year diploma degrees. In contrast, it will take five to six years of education, which includes 4 years of undergraduate degree, to become a medical doctor (general practitioner). Therefore, when the average level of education of health personnel is not an undergraduate degree, there are more nurses and midwives than general practitioners. Additionally, besides working in cities areas, the high distribution of GP and especially specialist level in Indonesia is common among districts

with high GRDP per capita and highly populated (Ilyas, 2006; Meliala & Trisnantoro, 2011). As shown in Table 3, as old districts, Ambon and Ternate have higher GRDP per capita, GRDP growth and population density than those are in East Seram and North Halmahera.

The fact that the number of general practitioners and obgyns in the new districts (East Seram and North Halmahera) was fewer than that in old districts (Ambon and Ternate) partially explained why MMR was higher in the former two districts than in the latter two. The fact is that maternal mortalities often resulted from pregnancy-related complications, which required more medical expertise than what midwives were usually trained. For example, the 2016 maternal death data in East Seram and North Halmahera showed that most of deaths were contributed by the pregnancy-related complications such as hemorrhage and eclampsia (hypertension disorders due to pregnancy). Therefore, although the new districts had a high number of midwives, they could not help much when there were such pregnancy-related complications.

Table 3. Districts' Economic Development and Population

	Ambon (Old)	East Seram (New)	Ternate (Old)	North Halmahera (New)
GRDP per capita (average 2012-2016) in million IDR	24.98	20.62	30.06	21.03
GRDP growth rate (average 2012-2016) in percent	6.56	5.26	8.32	5.66
Number of Population (2016)	427,934	110,024	183,596	218,028
Population Density (people per square kilometer) ¹⁸ (2013)	1135	28	1957.34	56.37

Source: Indonesian Central Bureau of Statistics, 2012-2016.

¹⁸ To control the effect of population density on maternal mortality, I compared the raw means of MMR by state capacity and means of MMR by state capacity holding population density constant. The results showed that the means of MMR are relatively the same. Raw means of MMR for high state capacity districts is 119.52 per 100,000 live births and for low state capacity districts is 129.05 per 100,000 live births. Similarly, the means of MMR controlling the effect of population density are 119.82 and 128.34 per 100,000 live births for low and high state capacity districts respectively. These results indicated that the level of maternal mortality was not mainly driven by the urbanization effect (population density), but it is due to the level of state capacity.

Street-level of Bureaucrats, Social Embeddedness, and Quality of Service Delivery

In relation to bureaucracy, as street-level bureaucrats, health personnel such as doctors, nurses and midwives play an important role in the effectiveness of service delivery. Therefore, the low capacity of street-level bureaucrats in new districts has affected the quality and quantity of maternal health care in the regions. In terms of quantity of service deliveries, due to limited number of street-level bureaucrats, the new districts like East Seram and North Halmahera had a lower coverage of antenatal care and birth assisted by skilled attendant as well as fewer number of health care facilities compared to those in the old districts, Ambon and Ternate (see Table 2).

Related to the quality of service deliveries, the lack of GP and Obgyns in the new districts/rural areas implies that midwives would play an important role as the main providers of maternal health care. Although midwives would usually have a sufficient skill to deal with delivery process, many of midwives were often incapable of providing certain services required to help pregnant mothers that had pregnancy-related complications. Maternal mortalities were often driven by direct obstetric causes such as hemorrhage, sepsis, hypertensive disorders, and complications of abortion. Therefore, providing timely treatment for obstetric emergencies is pivotal for reducing maternal mortalities (Pacagnella et al., 2014). When these complications happened, the midwives usually referred the patients to hospitals that had better health facilities and personnel expertise, which were available in cities/urban areas. Unfortunately, poor pregnancy complication management and referral system have contributed to treatment delays which in turn potentially lead to maternal mortality. One midwife, for example, revealed the chronology of one of maternal death cases:

She came to *puskesmas* only one time as she was originally from outside of the working areas of this *puskesmas*. Her age is above 40 years old and her blood tension was high. Since there was an indication of complication, I referred her to a hospital. She received a medical treatment in the emergency room, and since her blood tension has returned to normal, she was allowed to return home. The next day, she came again to the *puskesmas*. I was wondering why the health providers in emergency room let her go home with this condition. So, I wrote a new referral letter for her. She then finally received treatment in the hospital. Unfortunately, due to the pregnancy-related complication she had, she could not be saved. As midwives, we had followed the procedure. When there was an indication of complication, we referred the patient to hospital. However, health providers in hospital did something that might lead to death. (WT 2018)

Delays in providing the appropriate care may result from three issues, namely delays in deciding to seek care by the individuals or family, delays in reaching an adequate health care facility, and delays in getting adequate care at the health facility (Thaddeus, Sereen, Maine, 1994). Some studies have indicated that the causes of these delays include user factors such as delays in seeking health services, unwillingness to treatment and unsafe abortion; problems with health service accessibility such as difficulties in gaining access to health care due to inadequate maternal care, geography and transportation issues; and quality of medical care such as: lack of trained staff, delay in referral process, delay in diagnosis and starting treatment (Pacagnella et al., 2014).

Other than user factors, the lack of bureaucratic capacity has worsened the effectiveness of treatment. In the case of Indonesia, the highest level of referral system is to send a patient to a provincial-level hospital. Because of this, the lack of governmental capacity to establish better intergovernmental coordination might affect the quality of service delivery. My interviews with midwives and observation in maternal mortality audit suggested that many cases of maternal deaths in the four districts studied often took place in or on the way to hospitals due to the delays in the receiving emergency treatments.

Different from other types of bureaucrats, street-level bureaucrats have to deal with different working atmosphere as they have to directly accommodate client responses into their decisions (Lipsky, 1980). Street-level bureaucrats may also have to handle unique pressures and dilemmas including insufficient resources and unclear policy objectives and performance procedures (Pepinsky et al., 2017). In the case of obstetric emergencies, midwives have to make in-time decisions under various pressures and dilemmas. Therefore, training for these forefront health providers would be very important to prepare them with the necessary skills required to handle the pressures. However, once again, due to the lack of state capacity in the new districts, there have been few trainings provided for midwives by the district governments. In contrast, from my interviews with some midwives and during my observation in the midwives' training, I found out that in old districts such as Ambon and Ternate, the local governments managed to hold several trainings to upgrade the midwives' skills.

Additionally, the quality of service deliveries is dependent on social embeddedness – social relationships that affect the actions and decisions of frontline bureaucratic agents to achieve the expected public health outcomes. Some empirical studies have suggested that public service providers who are socially embedded in society they serve are likely to better understand the needs of the society and perform better and produce better results (Pepinsky et al., 2017; Ricks, 2016).

The social embeddedness of street-level bureaucrats can be established through regular interactions between the bureaucrats and their clients. In the case of MMR reduction, midwives as the street-level of bureaucrats play important role in providing antenatal care, particularly, in rural areas. Other than providing care services in *puskesmas* (public health

center), midwives are required to do routine visits through *posyandu* (Integrated Service Post) and home visits to pregnant women. Midwives are also assigned to certain working areas (*daerah binaan*) and they are expected to routinely visit to monitor pregnant women in their working areas. However, the intensity of the visit might differ due to various factors such as the work integrity of the midwives, the financial incentives provided by the local governments as well as the local governments' capacity to monitor, supervise, and evaluate the implementation of maternal care programs in the society.

Additionally, social embeddedness, particularly in post-conflict areas, occurred when trust and comfortable interactions between the health providers and the patients have been established. In Ambon, for example, the revitalization of Moluccan cultural institutions and traditions such as *uli, pela gandong* (traditional alliance system by which a family takes individuals from other villages with different ethnic and particularly religious backgrounds as part of the family/ brotherhood ties) has helped develop peace and strengthen reconciliation efforts in Ambon. These traditions functioned as an important social capital for Moluccan societies particularly those who are in Ambon (Ralahalu, 2006). Drawing from my interviews with midwives and observations during *posyandu* health visit, I found out that in the context of health services, the revitalization of these traditions has helped establish mutual trust between health providers and their clients especially if they have different ethnic and religious backgrounds.

My interviews with several informants suggest that even before conflict had occurred, Ambon is highly segregated areas in which Muslim and Christians were likely to live in separated villages – well known as Muslim/Christian villages and a mixed religious populations are only concentrated on some sub-districts especially in urban areas. Therefore,

social embeddedness was also established by assigning midwives in the *puskesmas* and areas that have the same religious background with the midwives. This helped develop trust between health providers and the citizens. Additionally, similarity in religious backgrounds has helped the health providers to cooperate with religious institutions such as church, *majelis taklim* (a social gathering for religious learning among Muslim. Although *majelis taklim* is open for man and women, women *Majelis Taklim* are more common in Indonesia) in socializing their health programs. In areas that had religiously mixed population, the practice of *pela gandong* played an important role of building trust between health personnel and community.

Related to traditional practices, it is also important to note that even though its number has significantly decreased in the last few decades, traditional birth attendants (TBA), or commonly known as *dukun*, was still popular among certain groups of women. To large extent, the popularity of *dukun* was driven by trust and traditions (Titaley, Hunter, Dibley, & Heywood, 2010). Similar to other studies, the findings from my interviews have shown that the TBAs, who usually lived in the community and shared the same culture, provided post-delivery services for mother and baby. Such a practice had been quite common in the community even after the introduction of modern health system, and was often recommended by closed social networks such as families, parents, and friends. Therefore, *dukun* were often considered as respected figures in the society and had a high level of trust from the community members. Midwives, on the other hand, might receive less trust than *dukun* especially when the village midwives are still young, just graduated from their academic trainings and from outside of the villages. Yet, routine interactions with the community can be a good strategy to establish social ties and improve the society's trust. A

trustworthy relationship between the midwives and the community they served could motivate the midwives to perform better by extending their efforts beyond their assigned tasks. One of midwives in Ternate, for example, said that:

I'm a young midwife and living outside of my working areas. To build trust from the communities and monitor pregnant women's health, I prefer to visit them several times in a month. I gave them my mobile phone number so that they can contact me anytime. Since the puskesmas in my working areas does not have ultrasound facility, I've often arranged the collective visit to hospital or obgyn clinic for ultrasound check up and provided transportation using my personal money. (RH, 2018)

Furthermore, rather than banning the use of TBA, social embeddedness of the midwives could be established by developing partnership between TBAs and midwives (*dukun mitra*). In this program, TBAs are expected to refer any pregnant women to midwives. While the midwives are responsible for delivery process, TBAs assist midwives in delivery process as well as recovery process. This program is expected to increase safe delivery coverage and improve the referral system by TBA. The *dukun mitra* program was introduced by the national government, but the success of its implementation was largely dependent on the local government capacity (such as to fund the program, socialize and organize trainings for TBA) and especially street-level bureaucrats (to build trust and coordination with TBAs as well as pregnant women). Some evidence suggests that due to their better bureaucratic capacity, the old districts (Ambon and Ternate) had higher coverage of birth assisted by skilled attendant than the new districts (see Table 2).

In the new districts, on the other hand, while the number of doctors was still very limited, the available doctors were usually dominated by those coming from outside of the districts such as from Ambon, Ternate or even from other parts of Indonesia such as Java. In East Seram, for example, doctors were available only in 6 out of 14 sub-districts. Many of

these doctors came from outside of East Seram district. These doctors were temporary ones, provided by the Doctor Internship and Nusantara Sehat Programs. The former was a national program designed as part of requirement for newly graduated doctors to receive their professional licenses. The duration of the internship was only one year, and the participating doctors were placed in various regions in Indonesia, particularly those with limited number of doctors. Meanwhile, the Nusantara Sehat Program was also a national program, which was specifically designed to reduce unequal distribution of health personnel in Indonesia, especially in rural areas, by placing them in local health center (*Puskesmas*). The program was also implemented in North Halmahera. Interviews with several doctors participating in the program revealed that different social and cultural backgrounds could be one of the major obstacles for the establishment of strong social ties and trust between health providers and the local community they serve.

In short, social embeddedness in the old districts enabled street-level of bureaucrats to better deliver maternal health care. It also improved the quality of these delivery services which in turn helped to reduce maternal mortality.

Fiscal Capacity and Maternal Mortality Reduction

Another important indicator of local government capacity is fiscal capacity, which involved an ability of local government to access resources from local taxation and central government transfer. This study posited that the local government proliferation had negative consequences on the fiscal capacity of the new local governments which, in turn, adversely affected the quality of public service outcomes such as maternal mortality. With limited bureaucratic capacity, new districts that were often located in the peripheral areas were likely to face difficulties in generating their own revenues from local taxation. As can be seen in

Figure 5, new districts like the East Seram and North Halmahera tended to have lower ratios of local tax revenue compared to the old districts. Similarly, measured by GRDP per capita and GRDP growth, the economic development of East Seram and North Halmahera as new districts was also lower than those of the old districts (see Table 3). With these limited resources, East Seram and North Halmahera were dependent on the national government transfers to provide public goods and services for their citizens.

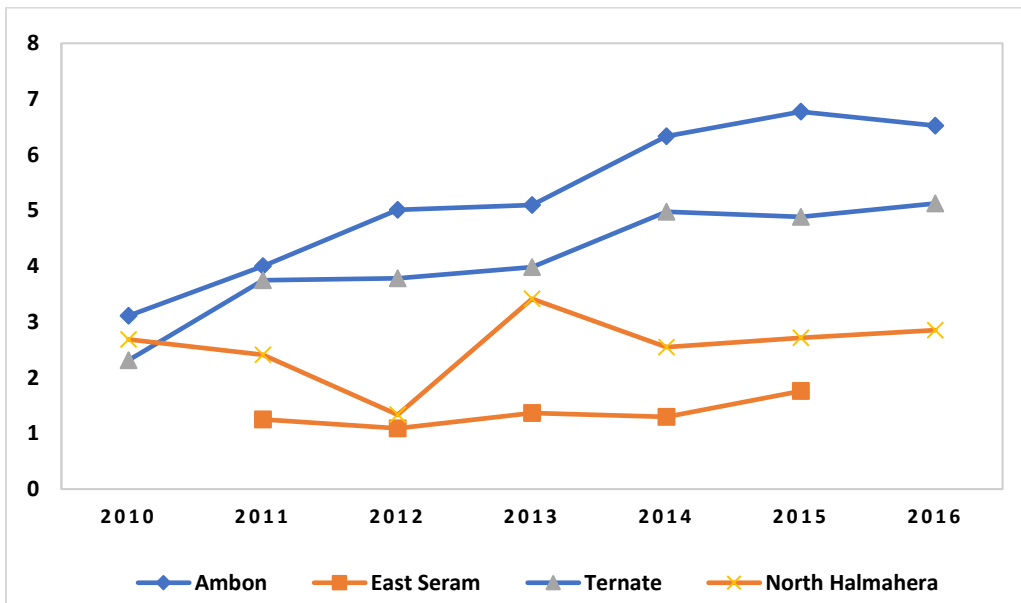


Figure 5. Ratio of Local Tax Revenue per GRDP

(Source: Author's calculation based on data from the Indonesian Ministry of Finance and Central Bureau of Statistics)

Related to health facilities in particular, the limited resources did not allow new districts to develop health infrastructures like the ones provided by the old districts. Old districts (that are cities and more urban areas) are likely to have better health infrastructure such as more public hospitals in addition to private ones. Largely driven by the growth of demands, private hospitals were usually built in cities/urban and highly populated areas, which were economically developed. To some extent, the establishment of public health centers (PHC, or puskesmas in Indonesian terms) since 1968, which achieved full coverage

20 years later in 1988, might substitute the lack of public and private hospitals in rural areas (Aspinall, 2014). Therefore, the ratio of *puskesmas* is likely to be higher in rural areas/new districts such as East Seram and North Halmahera (see Table 2). However, as the first level of public health facility, the facilities, and quality of the services are very limited particularly focused on the basic health care and preventive activities. Interviews and observations data have shown that these poor conditions have encouraged those who can afford out of pocket health care or private health insurance to visit private doctors or hospitals. It has, in turn, led to unequal access to health care particularly for the poor. Although recently there have been significant revitalization of *puskesmas* such as the upgrading the facilities like inpatient care *puskesmas* or as Poned *puskesmas* having Basic Emergency Obstetric and Newborn Care (BEmONC), many *puskesmas*, particularly that of in the rural areas, remained poorly equipped. Therefore, due to the limited health facilities in new districts, government of the new districts were likely to depend on the old districts' and provincials' health facilities when complication occurred.

Dependency, Re-centralization, and Local Initiatives

As previously mentioned, low government capacity, particularly in new districts, following the local government unit proliferation has affected the new districts' dependency to central government. This dependency can take a variety of forms such as being dependent on the central government for financing the programs, planning, and implementation of public service deliveries which lead to fiscal and administrative re-centralization (Lewis, 2014). Although the dependency did not necessarily lead to the re-centralization of power as the district governments maintained a higher level of authority than that of before decentralization, the issuance of Law No. 23/2014 caused shifts of several power back to

provincial and central levels. The Law also decreased district government's autonomy previously established by the decentralization laws No. 22/1999 and No. 32/2004 (Ostwald, Tajima, & Samphantharak, 2016).

In terms of fiscal re-centralization, the law has increased central government's control on central transfers known as "budget politics" (Ostwald et al., 2016). Additionally, due to limited ability of local governments in generating local revenue, high dependency, and control on central government transfers has made difficulties for local government to effectively fund their public good and services using their own local budget. Maternal mortality programs, for example, are mainly funded by the central government and contribution from local budget was very limited. Several studies even indicate that by depending on the central government budget on maternal health, local government reduced their own maternal health budget. This has poorly influenced the overall effect of maternal health expenditure on MMR (Adashi et al., 2013).

In term of administrative re-centralization, most programs and policies on maternal health, for example, are designed by the central government. Therefore, there is significant uniformity of programs in all districts in Indonesia including the four districts studied. The variations among districts occurred mainly in the implementation level depending on the local government capacity. The program of *Jampersal* (Delivery insurance), for example, is one of national programs to reduce the number of maternal mortalities in Indonesia. However, the implementation of the program is under the responsibility of local governments. The results of my interviews and observations suggest that due to the lack of local governments' capacity to manage the program, especially in new districts, they decided

to opt out and did not participate in the program even though many of their citizens are eligible for receiving the program's benefit.

No less importantly, due to limited local government capacity particularly in new districts, policies' initiatives from local government to better address the local needs are still lacking. There is no local innovation on maternal health programs in East Seram and North Halmahera. In contrast, in addition to central government programs, the local government in Ternate has created program called BERLIAN (it literally means diamond assuming mothers and children are precious. It is abbreviation of *Bersama Lindungi Ibu dan Anak*/ together we protect mothers and children). Funded by local government budget and in collaboration with community such as *posyandu* cadres and women local organizations, this program is providing intensive monitoring and assistance to pregnant women in order to prevent some possible risks and complication leading to maternal death. Similar program was also established in Ambon. An informant from Health Department of North Maluku Province told me that:

Among all districts in North Maluku, it is only Ternate that have additional budget for maternal and child health programs. And, due to better human resources in the health department, Ternate has been able to formulate and implement innovative programs to support the central government policies and enhance better maternal health outcomes. (HG, 2018)

Additionally, initiatives and political will of local government in Ternate can be seen from the issuance of local government regulation (PERDA/*Peraturan Daerah*) No. 11/2014 on maternal, newborn and child health care (*Kibbla/Kesehatan Ibu, Bayi Baru Lahir, Bayi dan Anak Balita*) that addresses the policies and its implementation procedures. After decentralization, local governments have the authority to formulate their own local government regulations to address local needs. Ternate is one out of 27 districts creating

specific PERDA to seriously address the issue of maternal mortality in their localities. The issuance of this regulation is driven either by the high number of maternal and child mortality in their localities or political determination of local government head to resolve and deal with the problems.

Conclusion

Despite the growing interests in the determinants of local government proliferation, little is known about the effect of the proliferation on public goods and service delivery including public health outcome such as maternal mortality. Using a functionalist perspective, some have argued that local government proliferation has redistributive consequences by bringing better public goods and service deliveries. However, this perspective has neglected the fact that the proliferation has restructured the institutional capacity in different types of local government units which in turns affect the variations in the quantity and quality of public good and services. Drawing on a comparative analysis of four districts in Maluku and North Maluku, the findings of the study indicated that the new districts (East Seram and North Halmahera) had higher level of maternal mortality compared to the old districts (Ambon and Ternate). The evidence suggests that the disparity resulted from the variations in the levels of local government capacities. Due to limited time to establish their institutional capacity, the new districts are likely to have weaker bureaucracy and local taxation as well as access to and central government transfers compared to the old districts. These conditions have increased the new districts' dependency to central government resources and re-centralization of power which in turn affect the quality of maternal health care and outcomes. These results confirmed other studies' findings on the

importance of local government capacities in improving the quantity and quality of public good and service delivery (Billing, 2018; Lewis, 2014).

This study also contributes to closing the gap in the analysis of social embeddedness of street-level of bureaucrats, especially public health care providers such as doctors, nurses, and midwives. As frontline bureaucratic agents who directly interact with the public/citizens, decisions and actions of these health providers has direct impacts on controlling the policies' implementation and the quality of maternal health cares. This study revealed that social embeddedness plays an important role in the effectiveness of maternal health care and services. Health providers who are socially embedded in the societies they serve are likely to have better knowledge on their needs and be able to effectively address those needs. In this study, the social embeddedness can be established through routine interactions between midwives and pregnant women which help to build trust. This trustworthy relationship has enabled them to communicate comfortably about sensitive maternal health issues and allowed midwives to provide better maternal care needed.

In ethnically and religiously diverse societies, social embeddedness can be established by embracing socio-cultural values in the society. For example, the implementation of the concept of *pela gandong* (everyone is a family and have brotherhood ties) and assigning midwives with similar ethnic and religious backgrounds in Ambon has helped building comfortable and trustworthy relationship between midwives and their clients in this post-conflict areas. Furthermore, social embeddedness can also be established by accommodating local traditions of health care. In the context in which traditional health care and TBAs (*dukun*) received more trust than modern health care and midwives, building cooperation between midwives and TBAs (*dukun*) has helped to bridging the trust gap

between midwives and the pregnant women. This cooperation, in turn, helps to reduce the potential risks of maternal death when delivery process is assisted by non-medical professionals.

Last, but not the least, the low level of government capacity in new districts which, in turn, increased their dependency to central government, has weakened these districts' initiatives to better address the problem of maternal mortality. Instead of formulating policies that better address the local needs, the district governments functioned more as the implementers of policies that have been designed and funded by the central government. This condition adversely affected the reduction of maternal mortality, particularly in new districts.

It is recommended that policymakers in the developing countries that have implemented the local government proliferation should pay closer attention to the improvement of local government capacity, particularly in the newly created districts. Without such capacity, the expected redistributive consequences of local government proliferation to bring better quality of public good and service delivery might be difficult to achieve.

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CHAPTER 5. CONCLUSION

Summary of Findings and Conclusion

This dissertation research examined the effects of decentralization and state capacity on maternal mortality disparities. It argued that decentralization affects maternal mortality disparities through its impacts on the development of state capacity (including local government capacity) in delivering public goods and health services. In short, this dissertation advocates the importance of strong decentralized governments in which the success of decentralization to fulfill of its promises occurs when central and local governments have high level of state capacity.

Chapter 2 analyzed the extent to which decentralization and state capacity affects maternal mortality disparities in Southeast Asian Countries. Using a historical comparative analysis of two Southeast Asian countries (Indonesia and the Philippines) as well as a random effect of panel data analysis, this chapter revealed that the political and institutional dynamics at both national and local levels have played important roles in shaping countries' decision to apply certain approach to decentralization and in turn affecting the decentralization outcomes in reducing maternal mortalities. In relation to decentralization approach, this chapter has indicated that different levels of political and economic crisis have contributed to countries' decision to choose a "Big Bang" approach to decentralization. While the approach to decentralization is often associated to ineffective outcomes, the findings of this chapter revealed that the "Big Bang" approach might lead to different outcomes, depending on the countries' level of state capacity both at central and local governments. A high level of state capacity, especially in the early stages of decentralization, would play a critical role in shaping the foundation for the decentralization policy and its

subsequent impacts on public policies. Compared to other Southeast Asian countries (Singapore, Malaysia, Thailand, and Vietnam), Indonesia and the Philippines have a higher maternal mortality rate. However, the findings of this chapter indicated that reduction of MMR in both countries after decentralization differed significantly. This difference was driven by the differences in the level of state capacity in Indonesia and the Philippines, especially in the early years of the implementation of decentralization policy.

Chapter 3 examined the interconnection between state capacity and social fragmentation, and their effects on maternal mortality disparities in Indonesia. In this chapter, the researcher argued that state capacity and social fragmentation play important roles as the fundamental causes of maternal mortality disparities which were mediated by the changes in health and social-gender development. The findings of this chapter confirmed the main argument of the study that state capacity is the fundamental causes of the differences in maternal mortality ratio in Indonesia mediated by the increased in both health and social-gender factors. The findings indicated that strong state capacity was associated with a low level of maternal mortalities. However, these associations differed between new and old districts in which it is significant among old districts. Additionally, the findings also confirmed the importance of state historical formation within a country, in this case, driven by decentralization through territorial splits, in the variations of state capacity and the disparities of MMR in sub-national levels of Indonesia.

Furthermore, although social fragmentation was associated to the decreased in state capacity and health factors, there was no significant evidence showing a direct association between social fragmentation and low levels of social and gender development. Additionally, a positive association between social fragmentation and maternal mortalities was observed

only in new districts but the association was not significant. In contrast, the social fragmentation in old districts was significantly related to low levels of maternal mortality. This study also suggested that local homogeneity within fractionalized districts as well as economic development have helped old districts to reduce negative effect of social fragmentation (diversity penalty) on maternal mortality ratio.

Chapter 4 addressed the effect of local government proliferation on maternal mortality disparities. Drawing from a comparative study of four districts in Indonesia's Maluku and North Maluku provinces (East Seram and North Halmahera as new districts and Ambon and Ternate as old districts), this study revealed that the disparities in MMR between the new and old districts resulted from the variations in the levels of local government capacities. A weaker access to bureaucracy, local taxation and central government transfers in new districts contributed to the increased in their dependency to central government resources and leading to re-centralization of power. These conditions, in turn, adversely affected the quality of maternal health care and outcomes.

This chapter also highlighted the importance of social embeddedness of street-level bureaucrats in the effectiveness of maternal health care and services. As frontline bureaucratic agents, public health care providers such as doctors, nurses and midwives directly interact with the citizens. Their decisions, therefore, would have direct impacts on controlling the policies' implementation and the quality of maternal health cares. The findings in this chapter indicated that health providers who are socially embedded in the societies they serve are likely to have better understanding on their needs and be able to effectively address those needs.

Furthermore, lack of local government capacity in new districts which, in turn, increased their dependency to central government weakened local governments' initiatives to better resolve the problem of maternal mortality. Under such a dependency, local governments function more as a policy implementer than a policymaker. As central government policies' often lack a good understanding of local needs, the implementation of these policies by weak local governments, which were often the case in new districts, is not likely to improve maternal health.

Policy Implications

Based on the findings of this dissertation research, it is recommended that policymakers in the developing countries that have implemented decentralization policy pay closer attention to the improvement of national state capacity as well as local government capacity, particularly in the newly formed local governments. Without such a capacity, it is hard to deliver the promises of decentralization in bringing better quality of public good and service provision into reality.

It is also recommended that policymakers invest in gender equality for the improvement of women health conditions. Investing on women's wellbeing will not only benefit women but also households, communities as well as countries' development. This study also documented an extensive literature confirming the importance of women's health for long-term development in which countries' and districts sustainable development depends on how they protect and promote women's health.

Theoretical Implications

The use of post-functionalism and historical institutionalism has helped to overcome structural functionalist theory that is unable to explain dysfunction, changes and instability. The use of post-functionalism and historical institutionalism is particularly beneficial to

understand how state and institutional changes such as decentralization and local government proliferation might not be functional and lead to unexpected consequences depending on the institutional historical development, political dynamics and identity pressures.

The findings of this study provided evidence on the importance of power-sharing arrangements between central and local governments in a decentralized system. The implementation of decentralization has shifted authorities into multi-level of governments. Therefore, rather than relying only on one level of government either central or local government, the sustainability and success of policies implementation depend on the ability of various levels of government to coordinate and work together to address development issues and policies' challenges.

The findings of this study provided evidence on the importance of state capacity and local homogeneity to minimize negative impact of diversity penalty in highly fractionalized society. Finally, a unique dataset was used to document local units of analysis of Indonesia that are still understudied.

Limitations and Recommendations for Further Research

Although the analysis in Chapter 2 and Chapter 4 used panel data and analysis, Chapter 3 focused only on cross-section analysis. Therefore, further research will benefit from a longer time frame which may help to capture changes and consistency of the findings overtime. Additionally, this study focused only on one level of analysis. The use of multilevel analysis of central and local governments as unit analysis would help to examine the importance of central and local government coordination for achieving development agenda. Finally, expanding comparative cases on homogenous districts with different levels of maternal mortality ratios and local state capacities will help to confirm the importance of

state capacity for the success of decentralization in bringing better health outcomes despite social homogeneity or heterogeneity.

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APPENDIX A. LIST OF GLOSSARY TERMS

Decentralization is a transfer of authority, responsibility, resources, and accountability from central to local governments (Falleti, 2013).

Diversity penalty is a perspective that considers diverse societies producing fewer public goods than do more homogenous societies (Alesina, Baqir, & Easterly, 1999; Alesina & Zhuravskaya, 2011)

Fractionalization is an aggregate measure of diversity based on ethnic, language or religion. It can be defined as the probability that two persons randomly selected from a country belong to different ethnic, language or religious groups (Fearon, 2003).

Income inequality is measured by Gini coefficient is the gap between individuals' or households' income in a given a given district.

Health factor measures public health infrastructure such as local government health spending as share of GRDP per capita, the number of physician, and midwives per 1000 people, the number of *Basic Emergency Obstetric and Newborn Care* (BEmONC) at local health facility (*Puskesmas* with PONED), access to an improved water source and sanitation; and health care coverage such as the proportion of births assisted by health professionals and at health facility, the proportion of pregnant women who received prenatal care and the proportion of contraception prevalence.

Local government Proliferation - well-known as “government fragmentation” (Grossman, Pierskalla, & Dean, 2017) or “administrative unit proliferation” (Grossman & Lewis, 2014) is considered as a political process on the creation of new local government through the splitting of administrative jurisdiction into a larger number of smaller units in a relatively short period (Grossman et al., 2017; Lewis, 2017).

Maternal mortality is defined as the number of pregnancy-related deaths per 100,000 live births which include the death during pregnancy or within 42 days of termination of pregnancy (WHO, 2015).

Pela Gandong is traditional alliances by considering others as part of the family/brotherhood ties in which people of certain villages with different ethnic and particularly religion backgrounds have become partners with other people from different villages and these relationships were strengthened through ceremonial events.

Social Fragmentation is the lack of connection between the members of society which lead to the clustering based on the same common culture, nationality, race/ethnic, language, religion, income and other common interests.

Social embeddedness is social ties that links the state (bureaucrat) to society and offer institutionalized channels for uninterrupted negotiation and reorganization of objectives and policies (Evans, 1995).

Social-Gender Development include education variables such as the local government education and social protection spending per capita, and gross secondary school enrollment; women status and gender equality indicators such as the ratio of female over male on the *average period of school* participation, female expenditure per capita, female life expectancy and the proportion of women in district parliament.

State capacity is a the ability of state institutions to make and enforce rules, to deliver services, and implement policies or programs regardless of the fact whether the state is democratic or not (Fukuyama, 2013; vom Hau, Sen, & Yanguas, 2013).

Street-level of bureaucrats is public service officials who interact directly with the public and implement policy on the ground (Pepinsky, Pierskalla, & Sacks, 2017).

APPENDIX B. VARIABLE DESCRIPTIONS AND DATA SOURCES

Chapter 2			
Variable	Description	Year	Source
Maternal Mortality	The number of pregnancy-related deaths per 100,000 live births which include the death during pregnancy or within 42 days of termination of pregnancy	1990-2015	Institute of Health Metrics and Evaluation (IHME) World Development Indicators, Word Bank
Regional Authority Index	A measure of decentralization based on two main concepts of self-rule (the authority exercised by a regional government over those who live in the region) and shared rule (the authority exercised by a regional government or its representatives in the country as a whole)	1990-2010	Hooghe et al. 2017
Bureaucratic Quality	A measure of institutional strength and quality of bureaucracy.	1990-2011	The International Country Risk Guide (ICRG)
Levels of Corruption	A measure of corruption within the political system, which is considered as a threat hindering the efficiency of government.	1990-2011	
Polity2	A measure of the level of democracy and autocracy	1990-2011	Gurr and Marshall
Births Assisted by a health professional	The proportion of births assisted by health professionals	1990-2011	World Development Indicators, Word Bank
Prenatal Care	the proportion of pregnant women who received prenatal care	1990-2011	
Health Expenditure	Government health spending as the share of the total GDP	1990-2011	
GDP	Gross Domestic Product (GDP) per capita (PPP, constant 2011 international \$)	1990-2011	
Population Density	Population density	1990-2011	
Ethnic Fractionalization	The probability of two individuals randomly selected from population belongs to different ethnic groups	1990-2011	Alesina et al.

Chapter 3			
Variable	Description	Year	Source
Maternal Mortality	The number of pregnancy-related deaths per 100,000 live births which include the death during pregnancy or within 42 days of termination of pregnancy	2016	The Directorate General of Nutrition, Maternal and Child Health (Direktorat Jenderal Bina Gizi dan Kesehatan Ibu dan Anak) of the Indonesian Ministry of Health
Births Assisted by a health professional	The proportion of births assisted by health professionals	2015	
Prenatal Care	the proportion of pregnant women who received prenatal care	2015	
Poned	The number of Basic Emergency Obstetric and Newborn Care (BEmONC) at a local health facility (Puskesmas)	2015	
Contraceptive Prevalence	The percentage of contraceptive prevalence	2015	
Local Government Revenue	Local Government revenue per GRDP (local tax revenue)	2014	The Directorate General of Fiscal Balance, the Indonesian Ministry of Finance.
Health Expenditure	Local government health spending per capita	2015	
Education Expenditure	Local government education spending per capita	2015	
Social Protection Expenditure	Local government social protection spending per capita	2015	
Secondary School Enrollment	Gross secondary school enrollment	2015	The Indonesia Database for Policy and Economic Research (INDO-DAPOER) from the World Bank
Population	Total Number of Population	2013	
The ratio of female over a male on the average period of school participation	the ratio of female over a male on the average period of school participation	2015	The Indonesian National Bureau of Statistics
Women Expenditure	The Average of women expenditure per capita	2015	
Women Life Expectancy	Women life expectancy	2015	
GRDP	Gross Regional Domestic Product (GRDP) per capita	2014	
Women in Local Parliaments	The proportion of women in the national parliament 2014		The Indonesia National Bureau of Statistics, and the Center of Political Studies, University of Indonesia.
New- Old	New and Old Districts after territorial splits	2015	Ministry of Home Affairs
Ethnic Fractionalization	The probability of two individuals randomly selected from population belongs to different ethnic groups	2010	(Arifin, Ananta, Utami, Handayani, & Pramono, 2015)
Religious Fractionalization	The probability of two individuals randomly selected from population belongs to different religious groups	2000 2005	McCulloch (2000) Tajima (2013)
Income Inequality	A measure of income distribution that shows the gap between individuals or households income in a given country	2014	Indonesia National Socioeconomic Survey (SUSENAS/Survey Sosial Ekonomi Nasional)

APPENDIX C. INSTITUTIONAL REVIEW BOARD (IRB) APPROVAL

IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY

Institutional Review Board
Office for Responsible Research
Vice President for Research
2420 Lincoln Way, Suite 202
Ames, Iowa 50014
515 294-4566

Date: 6/27/2017

To: Iim Halimatusadiyah
419 A East Hall

CC: Dr. David J Peters
304 East Hall
Dr. Carmen Bain
308 East Hall

From: Office for Responsible Research

Title: State Capacity, Public Provision and Maternal Mortality Reduction in Indonesia

IRB ID: 17-244

Approval Date: 6/26/2017 **Date for Continuing Review:** 6/25/2019

Submission Type: New **Review Type:** Expedited

The project referenced above has received approval from the Institutional Review Board (IRB) at Iowa State University according to the dates shown above. Please refer to the IRB ID number shown above in all correspondence regarding this study.

To ensure compliance with federal regulations (45 CFR 46 & 21 CFR 56), please be sure to:

- **Use only the approved study materials** in your research, including the recruitment materials and informed consent documents that have the IRB approval stamp.
- **Retain signed informed consent documents for 3 years after the close of the study**, when documented consent is required.
- **Obtain IRB approval prior to implementing any changes** to the study by submitting a Modification Form for Non-Exempt Research or Amendment for Personnel Changes form, as necessary.
- **Immediately inform the IRB of (1) all serious and/or unexpected adverse experiences** involving risks to subjects or others; and (2) **any other unanticipated problems** involving risks to subjects or others.
- **Stop all research activity if IRB approval lapses**, unless continuation is necessary to prevent harm to research participants. Research activity can resume once IRB approval is reestablished.
- **Complete a new continuing review form at least three to four weeks prior to the date for continuing review** as noted above to provide sufficient time for the IRB to review and approve continuation of the study. We will send a courtesy reminder as this date approaches.

Please be aware that IRB approval means that you have met the requirements of federal regulations and ISU policies governing human subjects research. **Approval from other entities may also be needed.** For example, access to data from private records (e.g. student, medical, or employment records, etc.) that are protected by FERPA, HIPAA, or other confidentiality policies requires permission from the holders of those records. Similarly, for research conducted in institutions other than ISU (e.g., schools, other colleges or universities, medical facilities, companies, etc.), investigators must obtain permission from the institution(s) as required by their policies. **IRB approval in no way implies or guarantees that permission from these other entities will be granted.**

Upon completion of the project, please submit a Project Closure Form to the Office for Responsible Research, 202 Kingland, to officially close the project.

Please don't hesitate to contact us if you have questions or concerns at 515-294-4566 or IRB@iastate.edu.

APPENDIX D. INFORMED CONSENT FORMS (ENGLISH AND INDONESIAN)

Informed Consent Form

Title of Study: State Capacity, Public Provision and Maternal Mortality Reduction in Indonesia

Principal Investigator: Iim Halimatusadiyah

The principal investigator is Iim Halimatusadiyah. Should you have any questions or concerns, you can contact the investigator at ihadiya@iastate.edu, +1 515 441 0582.

Supervising Faculty

The supervising faculties are Dr. David Peters and Dr. Carmen Bain. They are Associate Professors at Department Sociology Iowa State University. They can be contacted at dpeters@iastate.edu and cbain@iastate.edu respectively.

Project Description

The purpose of the study is to understand the state capacity in providing public health infrastructures and services to reduce maternal mortality rate (MMR) in Indonesia. This study also aims to understand various social, economic and political factors that might contribute to or hinder the reduction of maternal mortality in Indonesia. To accomplish these objectives, I will conduct in-depth interviews with various stakeholders such as government officials, health officials, members of legislature, representative of NGOs and academicians that concern with women and maternal health issue.

Benefits and Risk to Subjects

There is no direct benefit to you as a participants other than possible insights gained related to the reduction maternal mortality programs in Indonesia. There is a slight risk that person in authority positions could discover the opinion of the informants and should disagree with the opinions stated. However, I will make effort to provide subject confidentiality.

Voluntary Participation

Your participation in this study is completely voluntary. You are free to withdraw your consent and discontinue participation in this study at any time, for any reason, and without penalty or negative consequences. You may also decline to answer questions within the interview that you do not wish to answer. The interview will take approximately an hour of your time. To ensure accuracy, all interviews will be audio-taped and transcribed.

Confidentiality of Records

Records identifying participants will be kept confidential to the extent permitted by applicable laws and regulations and will not be made publicly available. However, federal government regulatory agencies such as NIH (National Institutes of Health), auditing departments of Iowa State University, and the Institutional Review Board (a committee that reviews and approves human subject research studies) may inspect and/or copy study records for quality assurance and data analysis. These records may contain private information. To ensure confidentiality to the extent permitted by law, the following measures will be taken:

Interview data will be stored in a principal investigator laptop that is password protected and encrypted. The data will also be backed up on Cybox.

The principal investigator will do all interview transcriptions. Once interviews have been transcribed, the audio files will be erased/destroyed.

All of your responses will remain confidential. Your responses will not be associated with you by name at any time and the data you provide will be kept secure.

The results of this study may be presented at meetings or published papers, but your name will never be used in these presentations of papers.

Results will be reported in aggregate such as referring to you as “government official”, “health official” or using pseudonyms to protect your identity.

Participants’ Rights Information

If you have any questions about the rights of research subjects, please contact the IRB Administrator, +1 515 294 4566, IRB@iastate.edu, or Director of Office for Responsible Research, +1 515 294 3115, Iowa State University, Ames, Iowa 50011.

Participant’s Consent

The study has been described to me and I understand that my participation is voluntary and that I am free to withdraw my consent and discontinue my participation at any time, for any reason without any penalty and negative consequences. I also understand that the interview will be audio-taped and transcribe. I also understand that the result of the study will be treated in strict confidence and reported only in pseudonyms and group form. I understand that if I have any questions or concerns about this study, I may pose them to the investigator at ihsadiya@iastate.edu, +1 515 441 0582. In providing written consent, I consent to participate in this study.

Participant’s Name (printed) _____

Participant’s Signature

Date

Pernyataan Kesediaan Wawancara

Judul Penelitian: Kapasitas Negara, Penyediaan Layanan Publik dan Pengurangan Angka Kematian Ibu di Indonesia

Peneliti Utama

Peneliti utama dalam penelitian ini adalah Iim Halimatusadiyah. Jika Bapak/Ibu/Suadara/I memiliki pertanyaan terkait penelitian ini, silahkan hubungi peneliti utama melalui email ihadiya@iastate.edu atau melalui telepon di +1 515 441 0582.

Dosen Pembimbing

Dosen pembimbing dalam penelitian ini adalah Dr. David Peters dan Dr. Carmen Bain. Mereka adalah Profesor di Departemen Sosiologi, Iowa State University. Mereka bisa dihubungi melalui email di dpeters@iastate.edu dan cbain@iastate.edu.

Gambaran Penelitian

Tujuan penelitian ini adalah untuk memahami kapasitas negara dalam menyediakan fasilitas dan pelayanan kesehatan bagi masyarakat dalam rangka pengurangan angka kematian ibu di Indonesia. Penelitian ini juga bermaksud untuk memahami berbagai faktor sosial, ekonomi, budaya dan politik yang berpengaruh bagi kesuksesan pengurangan angka kematian ibu di Indonesia. Untuk mencapai tujuan ini, peneliti akan melakukan wawancara mendalam dengan berbagai stakeholder dari pemerintah, anggota legislatif, tenaga kesehatan, perwakilan dari organisasi masyarakat dan akademisi yang fokus pada masalah kesehatan ibu.

Manfaat dan Resiko

Tidak ada manfaat langsung yang akan anda terima sebagai informan dalam penelitian ini. Pandangan dan pendapat anda akan sangat bermanfaat bagi pengurangan angka kematian ibu di Indonesia. Secara umum, tidak ada resiko yang signifikan dari partisipasi anda dalam studi ini. Akan tetapi, ada kemungkinan bahwa pimpinan dimana anda bekerja atau berafiliasi tidak sependapat dengan pandangan dan pendapat anda. Untuk mencegah hal ini, peneliti akan berusaha semaksimal mungkin untuk menjaga kerahasiaan informasi yang anda berikan dan juga identitas anda sebagai informan.

Partisipasi Bersifat Sukarela

Partisipasi anda dalam penelitian ini bersifat sukarela. Anda bisa mengundurkan diri dan tidak melanjutkan partisipasi anda dalam penelitian ini kapanpun tanpa ada sangsi atau konsekuensi negatif apapun. Jika ada pertanyaan dalam wawancara yang tidak berkenan, anda bisa menolak menjawab pertanyaan tersebut. Wawancara akan berlangsung sekitar satu jam. Untuk memastikan akurasi, semua wawancara dalam penelitian ini akan direkam dan ditranskrip.

Kerahasiaan Data dan Identitas

Informasi terkait participant akan dijaga kerahasiaannya sesuai dengan aturan yang berlaku dan tidak akan dapat diakses publik. Akan tetapi, Lembaga Peraturan Pemerintah Federal seperti NIH (National Institutes of Health), departemen audit di Iowa State University dan the Institutional Review Board (lembaga yang mereview dan menyetujui penelitian terkait dengan manusia sebagai subjek penelitian) bisa memeriksa dan/atau mencopy informasi penelitian untuk memastikan kualitas dari analisa data. Informasi ini bisa meliputi informasi yang bersifat pribadi. Untuk memastikan kerahasiaannya sesuai dengan aturan yang diperbolehkan, di bawah ini adalah beberapa hal yang akan dilakukan:

Data wawancara akan disimpan di laptop peneliti utama dan Cybox yang terlindungi dengan kata sandi dan terenkripsi.

Peneliti utama akan bertanggung jawab dalam proses transkripsi interview. Setelah semua hasil wawancara ditranskrip, audio file wawancara akan dihapus.

Semua respon anda akan dijaga kerahasiaannya. Respon anda tidak akan pernah diasosiasikan dengan nama anda. Hasil dari penelitian ini akan dipresentasikan di forum akademik dan diterbitkan dalam bentuk makalah ilmiah, akan tetapi nama anda tidak akan pernah disebutkan dalam presentasi maupun makalah tersebut.

Hasil penelitian ini akan dilaporkan dalam bentuk agregasi seperti mengganti nama anda dengan posisi anda sebagai “pejabat pemerintahan”, “tenaga kesehatan” atau menggunakan nama samaran untuk melindungi identitas anda

Hak Informasi Partisipan

Jika anda memiliki pertanyaan terkait dengan hak anda sebagai subjek penelitian, anda diperkenankan untuk menanyakan ke IRB +1 515 294 4566, IRB@iastate.edu, atau Director of Office for Responsible Research, +1 515 294 3115, Iowa State University, Ames, Iowa 50011.

Pernyataan Kesiediaan Partisipan

Saya telah memperoleh gambaran tentang penelitian ini dan saya paham jika bahwa partisipasi saya dalam penelitian ini bersifat sukarela. Saya bisa mengundurkan diri dan tidak melanjutkan partisipasi saya dalam penelitian ini kapanpun, dan tanpa ada sangsi atau konsekuensi negatif apapun. Saya juga paham bahwa seluruh informasi yang diperoleh melalui wawancara akan dijaga kerahasiaannya, dengan tidak menyebutkan di dalam laporan/analisis/publikasi hasil penelitian hal-hal yang memungkinkan pihak luar mengidentifikasi identitas personal pemberi informasi. Saya mengerti bahwa catatan lapangan, rekaman interview, dan transkrip wawancara akan di simpan dalam tempat yang aman, dan hanya peneliti yang memiliki akses ke tempat tersebut. Saya paham jika saya memiliki pertanyaan atau membutuhkan informasi lebih lanjut terkait penelitian ini, saya bisa menanyakannya kepada peneliti melalui ihjadiya@iastate.edu, +1 515 441 0582. Untuk menunjukan kesediaan saya secara tertulis, dengan ini saya menyatakan bersedia berpartisipasi dalam penelitian ini.

Participant's Name (printed) _____

Participant's Signature

Date

APPENDIX E. INTERVIEW GUIDE

Government Officials

Why did government decrease/increase the health spending especially related to women and maternal health spending?

How is the mechanism for the government to decrease/increase the health spending especially related to women and maternal health spending? Was the parliament involved in deciding the government policies over women/maternal health? Why yes/no? If yes, to what extent did the parliament affect the government policies?

What drove the government to decrease/increase the health spending especially related to women and maternal health spending? To what extent did the interests of societies (that are ethnically/religiously fractionalized) affect government decisions? To what extent did non-governmental organizations affect government policies on maternal health?

Is there any interest group (based on certain ethnic, religion, social class or political party affiliations) that affects government decisions over women's/maternal health policies?

What are government programs/policies to reduce maternal mortality? To what extent did these programs/policies have successfully reduced maternal mortality level? What are the challenges or obstacles for the success implementation of these policies?

To what extent local traditions help or hinder the implementation of government policies on maternal mortality reduction?

How are the government strategies to improve the health infrastructure and health services that in turn reduce maternal mortality?

How is the national and local governments (provincial and district levels of government) relationship (coordination) in dealing with the issue of maternal mortality? To what extent did this relationship (coordination) improve/exacerbate the efforts in reducing maternal mortality?

Law Makers

Does the legislature have an authority to make any decision on health issues, especially on women's/maternal health policies? If yes, how did the legislature use this authority in deciding government policies in reducing maternal mortality? If no, how did the member of legislature channel the aspiration of citizens/societies over health (women/maternal health) policies?

How did the democratic transition affect the role of the legislature over health policies, especially on the reduction of maternal mortality? If yes, how did the role of the legislature in health policies change during the last few decades?

Did the legislature affect the government decision over the rise/decline of health and education spending? If yes, in what health issues did the legislature affect the government policies? To what extent did members of legislature influence political decision making on health (women/maternal health) policy?

What influenced the voice/decision of the legislature over health (women/maternal health policies)? To what extent did societies or other non-governmental organizations affect the voice of the member of legislature over health (women's health/maternal health policies)? What is the effect, if any, of other interest groups (such as those that are based on certain ethnic, religion, social class or political party affiliations, etc) on health (women/maternal health) policies?

If the legislature is not authorized to make decisions over health (women/maternal health) policies, but given the considerable effect of health policies on the national health condition and people welfare, how did the law makers respond to the government decision to increase/decrease their spending in health (women/maternal health) and to the government efforts to reduce the maternal mortality?

Health Officials and Providers

How is the level of maternal mortality in Indonesia (or in this district)? How is the MMR in this district compared to national level of MMR?

What factors contribute to the high/low level of MMR in Indonesia (or in this district)?

What are the strategies/efforts that have been done to reduce maternal mortality in this district? To what extent these efforts have been successfully implemented? If not successful, what are challenges or obstacles for the implementation of these strategies/efforts?

Is there any trainings implemented to improve midwives skills in dealing with maternal complication issues? How often the trainings are implemented?

How is the relationship between national and local health officials? To what extent did this relationship help or hinder the efforts to reduce maternal mortality?

What are the strength and weaknesses of health infrastructure and services in this district?

What influenced the quality of health service delivery? To what extent did patients backgrounds (based on certain income, ethnic, and religion) affect public health/women's health/maternal health service delivery?

To what extent traditions help or hinder the implementation of government policies on maternal mortality reduction?

How is the relationship between health providers (midwives and doctors) with patients who are from different ethnic, religion and income backgrounds? What are the strategies used to build trust between health providers and patients and community?

Is traditional birth attendant (TBA) still common? What are the strategies used to minimize the role of TBA in societies and to improve societies' trust to health providers (midwives)?

Non-State Actors

What was society or NGOs' interest on public health provision? Did societies organize a certain interest group to articulate their preferences? If no, why did they not organize such organization? If yes, how did these organizations manage to articulate their interests in the issues of public health/women health /maternal health?

Is there any relationship between societal organization and the executive/legislative bodies? Why no/yes? In what form has this relationship developed? Is there any representative of societal organization in the House of Representatives or the ruling party?

Is there any relationship between societal association and the efforts and policies to improve health infrastructure and reduce maternal mortality?

How is the role of identities (ethnic, religious identities) in the provisions of public health? To what extent traditions help or hinder the implementation of government policies on maternal mortality reduction?